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MINERAL INDUSTRY SURVEYS
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
HAROLD L. ICKES, Secretary R. R. SAYERS, Director

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For release January 5, 1946.

Mineral Market Report
MMS No. 1362.

METAL MINING IN THE EASTERN STATES, 1945 - PRELIMINARY ANNUAL FIGURES

The mine output of zinc in the Eastern States in 1945 was the lowest since 1935, according to the Joplin Office of the Bureau of Mines, United States Department of the Interior. In 1944 zinc had accounted for 87 percent of the total value of gold, silver, copper, lead, and zinc produced in the area. Notwithstanding the drop in zinc production, the Eastern States contributed approximately 26 percent of the total United States mine output in 1945 compared with 25 percent in 1944. The Eastern States production of the other four metals is comparatively small; in recent years it has been 1 or 2 percent of the total domestic output for copper and lead and less than 1 percent for gold and silver. The general decrease in production in 1945 was attributed mainly to the cumulative adverse effect of prolonged curtailment of development work, caused by manpower shortage, and the fact that the most crippling stage of the mine labor shortage came during the final phases of the war. Gold Mining Limitation Order L-208 was revoked effective July 1, 1945, but this action had not resulted in the reopening of any important gold mine in the Eastern States by the end of the year. Nearly all the gold and silver output was recovered as a byproduct of the mining of other metals. The ceiling prices of copper, lead, and zinc remained at 12.00, 6.50 (New York base), and 8.25 cents a pound, respectively, throughout 1945. Mines that were unable to absorb increases in operating costs that occurred during the year could obtain relief through quota adjustments under the Premium Price Plan, which was extended by Act of Congress to June 30, 1946.

Preliminary figures for 1945, based on actual production reported by mine operators from January through October or November, with an estimate for the rest of the year, show a total output (in terms of recoverable metals) of 2,000 fine ounces of gold, 96,968 fine ounces of silver, 12,471 short tons of copper, 5,300 short tons of lead, and 159,320 short tons of zinc. These figures compare with outputs in 1944 of 2,595 ounces of gold, 124,006 ounces of silver, 15,049 short tons of copper, 6,266 short tons of lead, and 176,327 short tons of zinc, and show decreases for 1945 of 595 ounces of gold (23 percent), 27,038 ounces of silver (22 percent), 2,578 short tons of copper (17 percent), 966 short tons of lead (15 percent), and 17,007 short tons of zinc (10 percent).

The zinc output in 1945, as usual, came from New Jersey, New York, Tennessee, and Virginia. The New Jersey production increased slightly over 1944, but that of the other three States decreased. The bulk of the lead was derived from zinc-lead ore produced in New York and Virginia; the rest was recovered from lead car-

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Prepared by A. J. Martin, Joplin (Missouri) Office, Metal Economics Division, Economics and Statistics Branch.

bonate ore from Tennessee. The copper-producing States, in order of rank, were Tennessee, Pennsylvania, Vermont, and Virginia; North Carolina, which produced considerable copper annually from 1926 to 1944, had no output in 1945. States producing gold and silver were Alabama, New York (silver only), Pennsylvania, Tennessee, Vermont, and Virginia. Activity in exploratory drilling and development outside the producing areas was reported curtailed owing to shortage of manpower. The Bureau of Mines completed several drilling and geophysical survey projects on copper, lead, and zinc that were under way the first part of the year, and made field examinations and tests of ore treatment methods in investigating sources of strategic and critical minerals.

The values used for 1945 in the following table by States are calculated at prices of $35 per fine ounce of gold and $0.711 plus per fine ounce of silver; and at average weighted yearly prices (including estimates for Government premiums) of $0.136 per pound of copper, $0.086 per pound of lead, and $0.115 per pound of zinc. The prices used in 1944 were $35.00 for gold, $0.711 plus for silver, $0.135 for copper, $0.080 for lead, and $0.114 for zinc other than New Jersey (see following table, Footnote g/). The average price per pound actually paid to mine operators for zinc produced in the Eastern States from 1942-45 was considerably lower than the average weighted price (including Government premiums) paid for the entire domestic output. In 1942 and 1943 premium payments represented only about 5 percent of the total "mine" value of the zinc concentrates produced in the Eastern States, and in 1944 7 percent. Complete data on payments in 1945 are not yet available.

Mine production of gold, silver, copper, lead, and zinc in the Eastern States, 1944-45 in terms of recoverable metals

State	Gold		Silver		Copper		Lead		Zinc		Total value
	Fine ounces	Value	Fine ounces	Value	Short tons	Value	Short tons	Value	Short tons	Value	
Alabama.....	5	$ 175	1	$ 1	-	-	-	-	-	-	$ 176
New Jersey..	-	-	-	-	-	-	-	-	82,320	a/	a/
New York....	-	-	14,663	10,427	-	-	800	$137,600	25,600	$5,888,000	6,036,027
Pennsylvania	1,655	57,925	10,900	7,751	b/	b/	-	-	-	-	c/ 65,676
Tennessee...	240	8,400	52,089	37,041	b/12,401	d/3,373,072	70	12,040	34,000	7,820,000	d/11,250,553
Vermont.....	91	3,185	18,069	12,849	b/	b/	-	-	-	-	c/ 16,034
Virginia....	9	315	1,246	886	70	19,040	4,430	761,960	17,400	4,002,000	4,784,201
Total: 1945	2,000	70,000	96,968	68,955	12,471	3,392,112	5,300	911,600	159,320	17,710,000	e/22,152,667
1944	f/2,595	90,825	124,006	88,182	15,049	4,063,230	6,266	1,002,560	176,327	35,977,536	g/41,222,333

a/ Figures for value of New Jersey zinc not yet available.

b/ Pennsylvania and Vermont included under Tennessee; Bureau of Mines not at liberty to publish separate figures for Pennsylvania and Tennessee.

c/ Excludes value of copper, which is included under Tennessee.

d/ Includes also value of copper from Pennsylvania and Vermont.

e/ Excludes value of zinc from New Jersey, figures for which are not yet available.

f/ Includes 5 ounces of gold (value $175) from Georgia and 21 ounces of gold (value $735), 1,461 ounces of silver (value $1,039) and some copper (Bureau of Mines not at liberty to publish the figures) from North Carolina; no production in Alabama in 1944.

g/ Includes value of zinc from New Jersey ($14,080,644), which represents estimated smelting value of recoverable zinc content of ore after freight, haulage, smelting, and manufacturing charges are added.

Gold

Revocation of Gold Mining Limitation Order L-208 effective July 1, 1945, resulted in little immediate activity in gold mining in the Eastern States. Of the 2,000 fine ounces of gold produced during the year, 1,655 ounces were recovered from iron (magnetite-pyrite-chalcopyrite) ore from Pennsylvania, 331 ounces from copper-iron and copper ores from Tennessee and Vermont, 9 ounces from zinc-lead ore from Virginia, and 5 ounces from gold ore from Alabama (Tallapoosa County). The principal-producing gold mines when the war-time shutdowns occurred in 1942 were the Haile in Lancaster County, S. C., and the Condor (old Howie) in Union County, N. C., both equipped with cyanidation mills.

Silver

The silver output of the Eastern States in 1945 comprised 70,604 ounces recovered from copper and copper-iron ore from Tennessee, Vermont, and Virginia, 15,463 ounces from zinc-lead ore from New York and Virginia, 10,900 ounces from magnetite-pyrite-chalcopyrite ore from Pennsylvania, and 1 ounce from gold ore from Alabama.

Copper

The Ducktown district in Polk County, Tenn., is the principal copper-producing district in the Eastern States. The producing mines in 1945 were the Burra Burra, Eureka, Boyd, and Calloway, all operated by the Tennessee Copper Co. The ore contains heavy sulfides of iron, copper, and zinc. Most of that mined during the year was treated by selective flotation in the London and Isabella mills, which together have a daily capacity of 2,700 tons. Some of the ore was smelted direct in a blast furnace in the company smelter at Copperhill. The copper concentrates produced were smelted in a reverberatory furnace in the Copperhill smelter. The iron concentrates were used in making sulfuric acid in company plants at Copperhill and Isabella; they also yielded iron sinter, which was sold to iron and steel plants. The zinc concentrates were shipped to the Donora (Pa.) smelter. The smelter slag is screened and sized for sale mostly as railroad ballast, road material, and concrete aggregate; some of it is granulated and sized for roofing granules.

The Pennsylvania output of copper came from the Cornwall iron (magnetite-pyrite-chalcopyrite) mine of the Bethlehem Steel Co. in Lebanon County. The ore is treated in the company 6,500-ton mill by magnetic concentration supplemented by flotation and yields mainly magnetic iron concentrates, used in making iron and steel. Accessory products are copper concentrates containing recoverable gold and silver, shipped to an electrolytic refinery; and pyrite concentrates containing cobalt shipped to plants outside the State for recovery of sulfur (as sulfuric acid) and cobalt. The final pyrite residue is sintered and shipped to an iron and steel plant.

In Vermont the Elizabeth copper mine of the Vermont Copper Co. in Orange County was operated continuously in 1945. The mine was reopened in 1943, after a 13-year shutdown; it is equipped with a 500-ton flotation mill. The concentrates, which averaged 24.5 percent copper and contained some gold and silver, were shipped to the Phelps Dodge smelter at Laurel Hill, N. Y.

In Virginia 1,176 tons of ore averaging 6 percent copper were shipped from the Toncrae mine in Floyd County to the U. S. Metals Refining Co. at Carteret, N. J. A little copper was recovered as a byproduct from zinc-lead ore from the Valzinco mine in Spotsylvania County, which was closed in January 1945.

Lead and Zinc

The lead output of the Eastern States in 1945 was derived chiefly from zinc-lead ore, which yielded also 22 percent of the zinc; the quantity milled was about 738,000 tons compared with 832,139 tons in 1944. Zinc ore milled totaled about 1,972,000 tons in 1945 compared with 2,238,144 tons in 1944. Some lead carbonate ore was milled in Tennessee late in the year. New Jersey, New York, Tennessee, and Virginia contributed the output of zinc and zinc-lead ores. Considerable zinc was also recovered from copper-iron-zinc ore in Tennessee.

New Jersey. - Preliminary figures indicate that New Jersey ranked first among the States in the United States in zinc production in 1945. The State output of recoverable zinc as metal or in oxide was approximately 82,320 tons compared with 80,288 tons in 1944. Crude ore hoisted totaled 520,400 tons in 1945 compared with 543,007 tons in 1944. In addition to the crude ore milled, 6,500 tons of old tailings were remilled in 1945. The producing mines were the Mine Hill at Franklin and the Sterling Hill at Ogdensburg, Sussex County. Mill products are franklinite (zinc-iron-manganese) concentrates and willemite (zinc silicate)-zincite concentrates, which are shipped to smelting and manufacturing works at Palmerton, Pa.

New York. - Mines in New York produced 800 tons of recoverable lead and 25,600 tons of zinc in 1945 compared with 1,644 and 35,541 tons, respectively, in 1944. The highest recorded output of lead in the State was 2,434 tons in 1942 and of zinc 46,000 tons in 1943. The sharp drop in production during the past two years was due largely to manpower shortage. The producing mines in 1945 and other recent years were the Balmat and Edwards of the St. Joseph Lead Company, southeast and east, respectively, of Gouverneur, and the Hyatt mine of the Universal Exploration Company near Emeryville, all in St. Lawrence County. The Balmat ore contains zinc, iron, and lead sulfides, with some silver associated with lead; it is treated in the 1,000-ton flotation mill at the mine. The Edwards mine yields straight zinc ore and is equipped with a 500-ton flotation mill. The zinc concentrates from both mills were shipped to the company smelter at Josephtown, Pa.; the lead concentrates from the Balmat mill were shipped to the company Herculaneum (Mo.) smelter. The ore from the Hyatt mine was treated in the 200-ton mill at the mine, and the concentrates were shipped to the Donora (Pa.) smelter.

Tennessee. - The production of recoverable zinc in Tennessee in 1945 was approximately 34,000 tons compared with 40,831 tons in 1944 and the record high of 43,971 tons in 1942. The output of lead was 70 tons in 1945 and none in 1944; the largest recorded yearly output was 2,531 tons in 1917. The principal-producing zinc mines are at Mascot, New Market, and Jefferson City, 14, 23, and 28 miles, respectively, northeast of Knoxville. The decline in production from 1943-45 was due to labor shortage caused in large part by migration of workers to the Oakridge atomic bomb plant and other war plants near Knoxville. The American

Zinc, Lead & Smelting Co. operated the Mascot mines in Knox County and the Grasselli, Jarnagin, Mossy Creek, and Shallow Ore mines in Jefferson County. The mines are fully mechanized. The Shallow Ore is an open-pit mine about 80 feet deep; the others are worked through shafts at depths ranging from 250 feet to a maximum of 850 feet. The ore from all the mines is concentrated in the 4,000-ton mill at the Mascot No. 2 mine. The mill is equipped with a differential-density cone unit, jigs, and flotation machines. The concentrates averaged 61.07 percent zinc. A byproduct department at the mill prepares the mill tailings, which are chiefly limestone, for sale as railroad ballast, concrete aggregate, and agricultural lime.

The Davis-Bible group of the Universal Exploration Company at Jefferson City continued to be a large producer in 1945, but the output was lower than in 1944 owing to the accentuated labor shortage. The mine is opened by two shafts 180 and 240 feet deep and is equipped with an 800-ton flotation mill. The concentrates averaged 64.21 percent zinc. The mill tailings are sold as agricultural lime. The company continued developing the Straight Creek mine near New Tazewell in Claiborne County. In the Embreeville district in Washington and Unicoi Counties the Tennessee Zinc Co. resumed mining and milling zinc and lead carbonate ores. Shipments of zinc concentrates were made in February, April, and in each month after June. The company sank a 100-foot shaft on a good body of lead carbonate ore in the Lick Log area. Milling of ore from this shaft began in November. In Cannon County the Hoover mine of Dr. Gant Gaither east of Murfreesboro, equipped with a 25-ton mill, produced about a car of 58-percent zinc concentrates monthly. The Tennessee Copper Company at Ducktown, Polk County, produced zinc concentrates as an accessory product of its copper-iron mining and milling operations. The Bureau of Mines did exploratory drilling in the Powell River area of Claiborne County and trenching on the Brown-Tipton property in Greene County during the first part of the year.

Virginia. - The output of recoverable lead in Virginia in 1945 was approximately 4,430 tons and that of zinc 17,400 tons compared with 4,622 and 19,667 tons, respectively, in 1944. The Austinville mine in Wythe County, which has been in continuous operation since 1927, contributed the bulk of the State output of both metals; the ore is treated in the 2,000-ton flotation mill at the mine. The Valzinco zinc-lead mine near Paytes in Spotsylvania County, reopened by Panaminas, Inc., in September 1942 and operated throughout 1943 and 1944, was closed in January 1945. The mine was equipped with a 100-ton mill. The ore contained, besides zinc and lead, a little gold, silver, and copper, some of which was recovered in the concentrates. The products of the mill were zinc concentrates, shipped to the Langeloth (Pa.) smelter, and zinc-lead concentrates, shipped to the International (Utah) lead smelter and slag-fuming plant.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

HAROLD L. ICKES, Secretary
R. R. SAYERS, Director

For release January 16, 1946.

MINERAL MARKET REPORT
MMS No. 1363

METAL MINING IN THE CENTRAL STATES, 1945 - PRELIMINARY ANNUAL FIGURES

Mine production rates of copper, lead, and zinc in the Central States remained fairly constant through the final stages of the war and the early part of the reconversion period that followed in 1945, according to the Joplin Office of the Bureau of Mines, United States Department of the Interior. Extension of the Premium Price plan to June 30, 1946, by Act of Congress, stabilized operations at zinc, lead, and copper mines operating under the plan. Some of the Michigan copper mines that were receiving special prices under contracts with the Metals Reserve Co. were closed when the contracts were not renewed at the end of August. The quantity of lead produced increased slightly over 1944 and exceeded that of zinc for the first time since 1932; a decrease in lead production in the Tri-State (Kansas-Missouri-Oklahoma) district was more than offset by expanded output in other districts, mainly the Southeastern Missouri district, where some of the mines shifted men from development work to mining while the lead supply was critical in the first part of the year. The output of copper and zinc decreased heavily, owing largely to accentuated labor shortage and a further decline in the average grade of the ores and old tailings treated.

Preliminary figures for 1945, based on 11 months actual production with December estimated, show an output (in terms of recoverable metals) of 120,427 fine ounces of silver (all byproduct of base metals production), 33,665 short tons of copper, 203,076 short tons of lead, and 165,960 short tons of zinc. In 1944 the output was 148,898 ounces of silver, 45,723 short tons of copper, 201,577 short tons of lead, and 214,949 short tons of zinc, indicating decreases for 1945 of 28,471 ounces of silver (19 per cent), 12,058 short tons of copper (26 per cent), and 48,989 short tons of zinc (23 per cent), and an increase of 1,499 short tons of lead (1 per cent).

The total copper, lead, and zinc mine rock treated in the Central States decreased from 18,690,633 tons in 1944 to about 16,865,000 tons in 1945 and old tailings remilled from 15,549,822 to 15,165,000 tons. The average yield of recoverable copper per ton of copper ore milled decreased from 26.8 pounds in 1944 to 22.1 pounds in 1945, that of lead ore remained constant at 51.8 pounds, and that of combined zinc and lead per ton of zinc and zinc-lead ores decreased from 44.5 to 41.9 pounds. The yield of recoverable zinc per ton of old zinc tailings remilled decreased from 4.7 to 4.1 pounds, and that of copper per ton of old copper tailings from 6.9 to 5.3 pounds.

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All the straight copper ore and old tailings came from Michigan, but some copper was recovered from byproducts made in smelting Missouri lead concentrates, and some from copper concentrates made in milling lead-copper-cobalt-nickel ore, also from Missouri. Nearly all the straight lead ore came from Southeastern Missouri. About 92 per cent of the crude zinc and zinc-lead ores came from the Tri-State district and nearly 7 per cent from the Wisconsin-Northern Illinois district; other producing districts were Southern Illinois-Kentucky, Central Missouri, and Northern Arkansas. Of the old zinc tailings remilled, 94 per cent came from the Tri-State district and 6 per cent from the Wisconsin-Northern Illinois district.

The values for 1945 in the following table by States are calculated at the Government price of \$0.711 plus per fine ounce of silver and at average weighted yearly prices (including an estimate for Government premiums) of \$0.136 per pound of copper, \$0.086 per pound of lead, and \$0.115 per pound of zinc. In 1944 the prices were \$0.711 plus for silver, \$0.135 for copper, \$0.080 for lead, and \$0.114 for zinc.

Mine production of silver, copper, lead, and zinc in the Central States, 1944-45, in terms of recoverable metals

State	Silver		Copper		Lead		Zinc		Total Value
	Fine Ounces	Value	Short tons	Value	Short tons	Value	Short tons	Value	
Arkansas	---	---	---	---	1	$172	335	$77,050	$77,222
Illinois	1,748	1,243	---	---	3,327	572,244	8,235	1,894,050	2,467,537
Kansas	---	---	---	---	7,380	1,269,360	48,770	11,217,100	12,486,460
Kentucky	---	---	---	---	87	14,964	170	39,100	54,064
Michigan	23,774	16,906	30,665	8,340,880	---	---	---	---	8,357,786
Missouri	94,905	67,488	3,000	816,000	178,000	30,616,000	22,230	5,112,900	36,612,388
Oklahoma	---	---	---	---	12,700	2,184,400	70,790	16,281,700	18,466,100
Wisconsin	---	---	---	---	1,581	271,932	15,430	3,548,900	3,820,832
Total: 1945	120,427	85,637	33,665	9,156,880	203,076	34,929,072	165,960	38,170,800	82,342,389
1944	148,898	105,883	45,723	12,345,210	201,577	32,252,320	214,949	49,008,372	93,711,785
Increase or decrease 1945	-28,471	-20,246	-12,058	-3,188,330	+1,499	+2,673,752	-48,989	-10,008,372	-11,369,396

Silver

Silver is a minor constituent of the Central States ores and brings no return to lead and zinc mines and only small returns to certain copper mines in Michigan. The total recovered and estimated recoverable silver produced in 1945 was 120,427 ounces, comprising 23,774 ounces recovered from Michigan copper ore, 94,905 ounces from Southeastern Missouri lead and lead-copper-cobalt-nickel ores, and 1,748 ounces from Southern Illinois zinc-lead-fluorspar ore and byproduct lead concentrates produced in milling fluorspar.

Copper

The Lake Superior region in Michigan yielded 91 per cent of the Central States total output of copper in 1945 and 93 per cent in 1944. The rest of the output in both years came from Southeastern Missouri.

The production of the Lake Superior region was 30,665 tons of recoverable copper in 1945 compared with 42,421 tons in 1944 and 46,764 tons in 1943. The highest yearly production (recorded in Minerals Resources and Minerals Yearbook) was 134,897 tons (smelter output) in 1916, and the average for the 100-year period ended with 1944 was 47,727 tons. During this long period many of the mines on the most productive lodes were worked out or were worked to deep levels where mining became unprofitable. The mining depth in 1944 ranged from 400 to 7,000 feet on inclines of 30° to 70° and averaged about 4,300 feet. One old shaft has an inclined length of more than 9,000 feet and a vertical depth of nearly 5,500 feet, or 4,200 feet below sea level. The extent to which output can be maintained in the future depends upon the price of copper. The average total price paid for the mine output (including Government premiums and increment from special prices) was 12.83 cents in 1942, 16.19 cents in 1943, and 16.54 cents in 1944; complete data for 1945 are not yet available.

In 1945 mine mills treated about 2,026,558 tons of rock yielding 22,367 tons of copper compared with 2,382,525 tons yielding 31,983.5 tons in 1944. Reclamation plants handled 3,154,600 tons of old tailings yielding 8,298 tons of recoverable copper compared with 3,027,713 tons in 1944 yielding 10,437.5 tons.

The Calumet and Hecla Consolidated Copper Co. continued to operate the Ahmeek stamp mill, the Lake Linden and Tamarack reclamation plants, the Hubbell smelter, and the Ahmeek, Central, Douglass, Iroquois, North Kearsarge, Peninsula, Allouez, and Centennial mines. Because of the underground labor shortage the rate of ore extraction from the mines averaged lower than that provided for by the expansion in scope of mining operations accomplished during the first part of the war period. Output from the reclamation plants, which operated on low-grade amygdaloid tailings, was less than in 1944.

Operations of the other companies were also hampered by labor shortage. The Copper Range Co. operated the Champion and Globe mines, Freda mill, and Houghton smelter until September, when all were shut down owing to discontinuance of the Government special prices for copper and inability to complete arrangements to operate under the Premium Price plan. The tailing plant at the Freda mill was operated from April to August. The smelter treated company concentrates and also handled custom concentrates and mass copper from the Isle Royale and Quincy mines. The Quincy mine was closed August 31, when the Metals Reserve Co. ceased paying special prices for copper. The Quincy tailings reclamation plant, operated throughout the year, increased its output substantially. The Isle Royale mine was able to operate under the Premium Price plan after its special price contract was terminated by abandoning all development work and using more men on production, and working the richer part of the ore reserves. The concentrates produced after the Copper Range smelter closed were shipped to the Calumet and Hecla smelter.

In Southeastern Missouri the St. Louis Smelting & Refining Co. shipped copper concentrates produced in treating lead-copper-cobalt-nickel-iron ore from the Madison mine at Fredericktown. Smelters treating Southeastern Missouri lead concentrates continued to recover copper in byproducts shipped to other smelters. At the old Gordon copper mine, Douglas County, Wis., the Bureau of Mines did some experimental mining and milling to evaluate the showing of several fissures containing native copper.

Lead and Zinc

The Southeastern Missouri lead district produced about 86 per cent of the Central States total output of lead in 1945 and the Tri-State (Kansas-Missouri-Oklahoma) district yielded 12 per cent of the lead and 85 per cent of the zinc. Other Central States producing lead and zinc were Arkansas, Illinois, Kentucky, and Wisconsin.

Southeastern and Central Missouri.-- The mine output of recoverable lead in Southeastern Missouri was approximately 174,400 tons in 1945 compared with 169,622 tons in 1944. The output in 1944 represented 41 per cent of the United States total mine production and in 1945 close to 45 per cent. The mines of the St. Joseph Lead Co. in St. Francois County continued to produce the bulk of the output. The groups operated--the same as in other recent years--were the Bonne Terre, Desloge, Leadwood, and Federal, each of which is equipped with a mill. The mills together have a total daily capacity of 21,400 tons. Owing to the critical character of the need for increasing lead production in the first part of the year, the company transferred some men from development work to mining and operated the mines beyond their economic capacity. Part of the concentrates produced were shipped to the Federal smelter at Alton, Ill., and part to the company smelter at Herculaneum, Mo. The concentrates contain a little silver, copper, and zinc, some of which were recovered in byproducts at smelters or refineries. The electrothermic zinc recovery unit at the Herculaneum smelter was not run in 1945.

In Madison County the Mine La Motte mine was the largest producer; it is equipped with a 1,500-ton mill. The St. Louis Smelting & Refining Co. operated its Madison mine and 600-ton mill steadily. The ore contains lead, copper, cobalt, nickel, and iron; the products of the mill were copper-lead, lead-copper, cobalt-nickel, and iron concentrates. The lead-copper concentrates were shipped to the Herculaneum smelter, the copper-lead concentrates to smelters in Utah and Texas, and the other concentrates were mostly stored at the mine. After the middle of the year operations centered on producing lead, and the output of the other metals decreased. The Park City Consolidated Mines Co. ran its Ruth mine and 500-ton flotation mill throughout the year. The Fredericktown Lead Co., operating its 400-ton mill and the Catherine and Fleming mines, produced more concentrates than in 1944 despite heavy inflows of water during spring floods. Other companies were active in leasing and prospecting (mostly by geophysical methods) in Madison and St. Genevieve Counties. The Bureau of Mines made a magnetic survey near Fredericktown.

At Valles Mines, Jefferson County, the DeSoto Lead & Zinc Co. 200-ton mill operated on zinc-lead-iron carbonate ore from dumps on the Valle Mining Co. properties; the concentrates were shipped to the Ozark pigment plant at Coffeyville, Kansas. In Central Missouri the open-pit zinc-lead-coal mine and 100-ton jig mill on the Monarch Coal & Mineral Co. land in Moniteau County, operated by the Wemhaner Mining Corporation since 1940, were closed in May 1945.

Tri-State district (Kansas, Oklahoma, Southwestern Missouri).--

Production of zinc concentrates in the Tri-State district was approximately 262,776 tons and lead concentrates 32,025 tons in 1945 compared with 355,401 and 36,934 tons, respectively, in 1944. Preliminary data indicate that the district contributed 23 per cent of the United States total mine output of zinc in 1945 compared with 26 per cent in 1944 and an average of 42 per cent from 1907-43; of the lead, the district contributed 6 per cent in 1945, 7 per cent in 1944, and an average of 11 per cent from 1907-43. The decrease in production in 1945 from 1944 was due in large part to diminished labor supply. The number of men employed directly by the mining companies dropped from around 6,000 in July 1944 to 5,000 in July 1945 and did not increase materially after the end of hostilities in August. Another important factor in reducing concentrate output was the decline in average grade of crude ore mined and old tailings re-treated. The average recovery of combined zinc and lead concentrates from crude ore decreased from 3.71 per cent in 1944 to 3.42 per cent in 1945, and the recovery from old tailings from 0.44 to 0.37. About 49 mills were operating in the region in December 1945, of which 17 were tailing mills, compared with 52 in December 1944, including 16 tailing mills. The mine mills, a number of which treated company and custom ore, together served about 200 mines operated by 80 companies. The tailing mills (13 companies) produced 41,650 tons of zinc concentrates in 1945 compared with 53,547 tons in 1944. According to the weekly bulletin of the Tri-State Zinc and Lead Ore Producers Association, stocks in mill bins (sold and unsold) as of December 15, 1945, totaled 3,867 tons of zinc concentrates and 465 tons of lead concentrates compared with 5,032 and 574 tons, respectively, on the same date in 1944.

The following table gives preliminary figures on production of lead and zinc in the district, by areas, in 1945 and total final figures for 1944.

MINE PRODUCTION OF LEAD AND ZINC IN THE TRI-STATE REGION 1945
In short tons.

	Material treated		Concentrates		Recoverable metal	
	Crude ore	Old tailings	Lead	Zinc	Lead	Zinc
Kansas.......	2,750,000	1,848,000	9,959	89,900	7,380	48,770
Southwestern Missouri...	1,410,000	486,000	4,783	41,144	3,600	21,612
Oklahoma.....	3,245,000	8,995,000	17,283	131,732	12,700	70,790
Total: 1945	7,405,000	11,329,000	32,025	1/262,776	23,680	141,172
1944	9,118,388	12,293,010	36,934	2/355,401	28,059	190,270
Increase or decrease, 1945.......	-1,713,388	-964,010	-4,909	-92,625	-4,379	-49,098

1/ Includes 41,650 tons from tailings.
2/ Includes 53,547 tons from tailings.

Under ceiling metal prices of 8.25 cents a pound for zinc and 6.35 cents for lead at East St. Louis, the weekly quoted price of concentrates at Joplin remained at $55.28 for zinc blende and $76.01 for galena throughout 1945. Government premium payments for 60-per cent zinc concentrates continued at $29.70 a ton for assigned production under the A-level quota, $59.40 for B-level, and $89.10 for C-level; for 80-per cent lead concentrates, the payments were $41.80 for A-level and $83.60 for B-level. Complete data on the total premium payments for Tri-State concentrates in 1945 are not yet available, but they probably amounted to around $13,330,000 for zinc and $1,500,000 for lead. The market value of the concentrates at quoted prices was about $14,470,000 for zinc and $2,300,000 for lead, making total values of $27,800,000 for zinc and $3,800,000 for lead compared with $36,565,544 and $4,364,226, respectively, in 1944.

Premium payments represented a high proportion of the total value of the concentrates because a substantial part of the output came from remanents of ore bodies left in old mines and from other low-grade deposits that had not been commercial at pre-war prices but were drawn upon to maintain production after military needs made cost a secondary consideration. Also, the largest developed reserves of rich ore were utilized to increase production while the zinc supply was critical in the first stages of the rearmament and war production programs; this circumstance and the rise in operating cost during the war necessitated payment of one or more premium units on the bulk of the concentrates produced after 1942.

The abnormally high rate of ore-reserve depletion during the war is a retarding factor in making readjustments for operating on a peacetime footing. Extensive drilling campaigns conducted outside the general areas of proved mineralization did not result in finding important new sources of ore. Reserves added through discovery and development of ore bodies within the known mineralized areas, though considerable, have not been sufficient to halt the decline in grade of ore at the current rate of production. Several years' operation of many mines under B- and C-level quotas led to extraction of much of the readily accessible low-grade rock that has recently come to be regarded as a potential ore reserve for immediate exploitation in a competitive peacetime metal market through improved mechanical mining methods and further economies in transportation and milling. To explore, open, and equip other old mines or virgin deposits found to have possibilities for exploitation through technologic developments requires a great deal of time, labor, and expense, and work of this type was hampered during the war by shortage of labor and materials.

Extension of the Premium Price plan to June 30, 1946 proved to be an effective measure for keeping the lower-grade mines in operation in the early post-war period, thus stabilizing production rates and providing continuous employment for workers in the mining industry and other industries dependent upon it. Unless the market price for concentrates advances materially before or upon expiration of the Plan and a steady demand continues, further assistance would be required to enable the "high-premium" mines to continue to operate. If given sufficient time to catch up on development work and obtain recently improved types of mechanized equipment, a number of these mines would probably again become commercial producers under peacetime conditions. Others may warrant operation on the basis of appreciable metal content and present accessibility of the ore in combination with their location in strategic drainage areas where the connected underground workings of many mines (or 40-acre tracts) must be kept unwatered to permit mining in any part of the area.

Churn drilling in 1945 was confined chiefly to extensions of ore bodies and prospecting in or near known mineralized areas. The number of rigs operating at any one time ranged from 40 to 50. These included rigs used by the Bureau of Mines on exploratory projects in the Baxter Springs, Galena, Joplin, Melrose (geophysical survey also), and Racine areas. About 10 new shafts averaging 135 feet deep were sunk during the year compared with 13 averaging 180 feet in 1944. Some old shafts were reopened, and a number of operating shafts were closed. Large tonnages of overburden were removed at the three principal open-pit mining or development operations. Facilities for aluminum-powder treatments to prevent silicosis were being installed by the mine operators as the year ended. The Reconstruction Finance Corporation continued the mine loan office and the office of the agent for premium payments at Joplin. The local War Production Board office (priorities, materials, and regulations) was closed in November. Additional details of mining and milling are given in the following review by areas.

In the Kansas area production of zinc concentrates decreased 24 per cent from 1944 and lead concentrates 18 per cent. Mines near Blue Mound, Baxter Springs, and Treece contributed most of the output. The Eagle-Picher mines shipping to the company Central mill at Cardin, Okla., were large producers; they comprised the Big John, Leopard, Parmenter, Sim C, Webber mines, Westside-Barr, Westside-Foley mines, and Wilbur. Drilling north of the Westside-Foley shaft disclosed ore bodies at a deeper level than those to the south, and the company deepened the old Foley mill shaft to the 400-foot level and nearly completed sinking a new 455-foot shaft on the north end of the Foley lease. The Paxson, Stoskopf, and Swalley "D" mines and the Paxson mill were operated by Eagle-Picher as agent for the Metals Reserve Co. The Mid-Continent mines, Ebenstein (Bilwil), Robob, and Mark Twain shipped custom ore to the Central mill.

The Ballard central mill of the St. Louis Smelting & Refining Co., second-largest producer of concentrates in the Tri-State district, treated company ore from the Ballard, Bailey, Clark, English "C", Keith, Shanks, Slaughter, Walter H., and Moore mines and custom ore from other mines, including the company No. 4 mine in Oklahoma, leased by the C. & M. Mining Co. The Beck Mining Co. No. 3 mill treated company ore from the Swalley and Smith mines and custom ore from the MacArthur. The Harris Mining Co. operated the Robinson and Silver Fox mines (closed during the year) and the E-W No. 24, shipping the ore to the Youngman mill. This mill also treated custom ore from the Federal Muncie group (closed in March), the Southern mine (closed in April), and the Baird in Oklahoma. The Bilharz Mining Co. operated the Bilharz Brewster mine and mill until the end of October, when both were closed owing to expiration of the lease. In November the mill was purchased by the M. & W. Mining Co., which operated it on ore from company mines in Oklahoma. The Dines mill treated company ore from the Dines No. 3 (Okla.), Tar Creek, and Hartley mines and custom ore from the C. K. & E. (Stebbins) and Jarrett (Robinson). The Liza Jane (Lula Bell) mine shipped ore to mills in Oklahoma. The Wade-Rea mill handled company ore from the Wade-Hunter mine and some custom ore. The New Blue Mound mill was operated by the Worley Mining Co. on old tailings and custom mine dirt from January to March; it was then closed and dismantled. The Barr Cleanup Co. ran a section of the old Webber mill on cleanup material, mostly from Oklahoma. The Captain tailing mill was run continuously. The Semple (Early Bird) tailing mill, a large producer since 1935, was closed May 19, 1945. F. W. Evans Mines installed heavy equipment and carried on extensive stripping operations to open the caved part of the old Peru mine workings, and also built a plant for crushing, sizing, and washing barren rock for sale as railroad ballast; ore mined can be treated in the mill on the property.

At Galena the principal producers were the Eagle-Picher Murphy and Illinois mines, the Galena Mining Co. Southside mine, and the Ness Cave, North End, and Rosenberry open-pit mines; most of the ore was shipped to the Central Mill. The Eagle-Picher lead smelter and lead and zinc pigment plant at Galena purchases most of the lead concentrates produced in the Tri-State district. At Peacock the Carson Mining & Milling Co. continued to operate its tailing mill.

In the Waco district (Kansas part) the St. Louis Smelting & Refining Co. operated its No. 9 group of mines and mill. Besides company ore, the mill handled custom ore from the Stotts City Mining Co. Bennett leases. The F. W. Evans mill treated ore from the O'Neill group. Both mills also handled company ore from other mines across the State line in Missouri.

In Southwestern Missouri production of zinc concentrates decreased 39 per cent from 1944 and lead concentrates 24 per cent. The Oronogo Circle open-pit mine of the Oronogo Mutual Mining Co. continued to be the largest individual producer of zinc in Missouri. Part of the ore was treated in the Eagle-Picher leased American mill on the property (closed November 1) and part was shipped to the Central mill in Oklahoma. Fenix & Sons, operating a shaft on the Oronogo Mutual lease, shipped ore to the Central mill. The newly-reopened Eagle-Picher Needmore mine was about ready to ship ore in December. The LaTosca (Fenix & Martin) mine and mill continued producing except during March, April, and May. Kansas Explorations, Inc., operated the Snapp mill and the Buckingham mine all the year and the Snapp mine from January to May; the company also continued to operate its Jasper mine and mill near Joplin. Other producers near Joplin included the Missouri Mining Co. tailing mill, the O'Jack and Swartz mines (ore treated in the C. & O. or Southside mill), and the Little Pat mine (ore shipped to the St. Louis Mining & Milling Co. custom mill at Thoms Station). The C. G. & C. Co. sank a shaft on the Potter land and leased the Northside mill in November.

The Federal Mining & Smelting Co. operated the company-owned Granby-American and Duenweg mines and mills throughout the year; the leased Granby-Davis mine was closed June 1. At Aurora the American Zinc, Lead & Smelting Co. ran its mill on ore from the Hunter group. Producers in the Missouri part of the Waco district were the St. Louis Smelting & Refining Co. group (High Five) and the F. W. Evans O'Neill group (ore treated in company mills in Kansas) and the C. C. Playter (Reynolds group) mine and mill. The F. W. Evans Mines also worked the McBee-Martin mine at Smithfield until August and reopened the Sucker Flat open-pit mine and washing-concentrating plant at Webb City formerly operated by Cooley Bros. The Capital mine and mill at Stotts City were operated until April, when heavy rains flooded the mine; the mill was used to treat tailings after October. The silicate-carbonate mine and 250-ton mill of the Southwest Mining Co. at Stark City operated most of the year. The Wentworth Mining & Milling Co. resumed operations in June. The Blue Bonnet Mining Co. ran the Navy Bean mill during September and October on old tailings, and sank a shaft on the Owen-Baker lease near Wentworth. The New Dalite mine near Carthage shipped ore to the Berkey mill at Alba. The Hughes sand and slime plant at Webb City continued operating. The Mary Arnold mine and mill near Ozark, Greene County, operated a few weeks, and the Alice mine in Ozark County shipped sorted crude ore.

Mines and tailing mills in Oklahoma produced about 50 per cent of the total Tri-State output of zinc and 54 per cent of the lead in 1945 compared with 48 per cent and 50 per cent, respectively, in 1944. The zinc output decreased 23 per cent from 1944 and lead 9 per cent. The 14,000-ton Central mill of the Eagle-Picher Mining & Smelting Co. operated at considerably less than capacity most of the year; the acute shortage of labor, besides limiting output of the mines supplying the ore, caused delays in surface transportation and handling ore at the mill. Crude ore treated in 1945 totaled about 3,100,350 tons, of which 1,928,285 tons (62 per cent) came from Oklahoma mines, compared with 3,433,670 tons in 1944, of which 2,213,214 tons (64 per cent) came from Oklahoma. Eagle-Picher mines in Oklahoma shipping to the mill were the Blue Goose mines, Douthat, Goodeagle mines, Gordon No. 2, Grace Walker No. 1, Hum-bah-wat-tah mines, John Beaver No. 2, Lotson (B. & R.), Netta, See Sah, and Wesa Greenback; some of the other large Oklahoma shippers to the mill were the Davis Big Chief (Skelton, Lucky Bill), F. W. Evans (Shorthorn), Federal Mining & Smelting Co. (Lucky Syndicate-Howe, Gordon, and Quapaw-Davenport), M. & M. Mining Co. (Piokee), Mahutska Mining Co. (Acme, Jeff City), and Carpenter Mining Co. (New York, Oko). The Eagle-Picher 2,400-ton Bird Dog mill was not run in 1945.

The Evans-Wallower No. 7 mine and mill were operated by Evans-Wallower Zinc, Inc., from January to August, when they were sold to the American Zinc Co. of Oklahoma, which operated them the rest of the year. The Lula Bell mill, serving the Farmington (Okla.) and Liza Jane (Kans.) mines, burned October 14; the Liza Jane subsequently shipped ore to the Beck No. 1 mill and the Farmington was shut down. The Beck No. 1 mill treated other custom ore, mostly from the M. & W. Mining Co., Brewster-Huttig and Ninety-Six, Sequoyah, and Liza Jane (Kans.) mines. The Mission mill handled custom ore from the Pelican, Toltec, Kropp, and other mines. The Royal mill of the United Zinc Smelting Corporation treated company ore from the Royal and Park Walton mines and custom ore from the C. & R. and Baird (C. & B.) leases. The Park Walton, a recently-developed mine in the Melrose area, was among the district's best lead producers; it is being equipped with a mill. Other important-producing mine mills were the Cameron & Henderson (Admiralty Mine), Kansas Explorations (Ritz), Lawyers Lead & Zinc (mine dirt and old tailings), Rialto, Scott, and Weidman (Woodchuck and Townsite mines). The Four-Mile Mining Co. sank a shaft and erected a mill on the T. R. Smith land.

All the large Oklahoma tailing mills that were active in 1944 continued running throughout 1945; they comprised the Atlas, Big Chief, Britt & Britt, C. G. & C., Cardin Nos. 2, 3, and Western, Evans-Wallower No. 4, Semple (Martin), and Tri-State Zinc Ottawa and Sooner.

Arkansas.-- Production of zinc concentrates in Arkansas increased from 57 tons (all carbonate) in 1944 to 951 tons (mostly carbonate) in 1945. One ton of lead concentrates was produced in 1945 and none in 1944. Most of the zinc output came from the Big Hurricane open-pit carbonate mine in Searcy County, operated by the Grimmett Construction Co. The mine is equipped with a 500-ton jig-and table-concentration mill. The concentrates were shipped to the Mineral Point smelter at DePue, Ill. The North Star mine near Harrison and the Gloria-Jack Pot at Zinc each shipped a few lots of crude sulfide ore to custom mills in the Tri-State district. The Baker-Brewer near Ponca shipped a car of zinc carbonate to the Athletic smelter at Fort Smith, and a ton of lead concentrates to the Eagle-Picher smelter at Galena, Kansas.

Illinois.-- The Illinois zinc and lead output comes from two widely separated areas, one in the extreme northwestern part of the State bordering on Wisconsin and Iowa and the other in the southeastern part bordering on Kentucky. Production data for the northern area, which is part of the Upper Mississippi Valley zinc-lead region, are given under Wisconsin. The principal producers in the Northern area in 1945 were the Graham-Ginte mine of the Ginte Mining Co., and the Gray mine of Tri-State Zinc, Inc. The Graham-Ginte is equipped with a 400-ton mill producing bulk zinc-iron-lead rougher jig concentrates, sold to the Vinegar Hill Zinc Co. custom flotation mill at Cuba City, Wisconsin; and finished lead concentrates, sold to local buyers. The Gray mine is a newly developed property which began producing late in 1944. It is opened by a 6 x 12 foot shaft 200 feet deep and drifts on the 197-foot level. The ore, which contains zinc, iron, and lead, is treated in the 600-ton jig and flotation mill at the shaft. The finished zinc concentrates averaged 62.4 per cent zinc and the lead concentrates 75.4 per cent lead. After August the mill also treated old tailings from other properties nearby. The Big Six (North Unity) mine shipped crude ore to the Vinegar Hill Mill. The Bureau of Mines did exploratory drilling on the Bautsch, Boevers, Gray, and Bell (Southcott) properties.

In Southern Illinois production of zinc concentrates totaled about 7,955 tons and lead concentrates 4,250 tons in 1945 compared with 9,891 and 2,753 tons, respectively, in 1944. The Mahoning fluorspar-zinc-lead mines near Cave in Rock continued to be the principal producers. The ore was trucked to the company 300-ton flotation mill at Rosiclare for treatment. The products of the mill were fluorspar concentrates (mostly acid grade), zinc concentrates containing 63 per cent zinc, and lead concentrates containing 70.4 per cent lead. Besides company ore, the mill treated custom ore and bulk concentrates and middlings containing zinc, lead, and fluorspar from other mines and mills in Southern Illinois and Kentucky; the Illinois custom shippers to the mill were the Rosiclare Lead & Fluorspar Mining Co. and the Aluminum Ore Co. The Minerva Oil Co. operated its fluorspar-zinc mine and 200-ton flotation mill near Cave in Rock continuously in 1945 and shipped fluorspar concentrates of ceramic grade and zinc concentrates averaging 62.6 per cent zinc. The Minerva operations are described in an article in Pit & Quarry of June 1945.

Kentucky.-- The Kentucky output was 170 tons of recoverable zinc and 87 tons of lead in 1945 compared with 341 and 170 tons, respectively, in 1944. The Twin

Valley Mining Co. zinc-lead mine and 100-ton mill at Gratz in Owen County were operated in January and February 1945 but were idle the rest of the year except for development work done by the K. T. Dome Mining Syndicate, which took over the property in September under a contract with an option to purchase. In Crittenden County the United States Coal & Coke Co. produced zinc and lead concentrates by flotation of tailings in its fluorspar mill at Mexico, and the Delhi Fluorspar Co. shipped byproduct lead concentrates. A number of fluorspar producers shipped material containing zinc, lead, and fluorspar to the Mahoning mill at Rosiclare, Ill.; the principal shipper was the Eagle Fluorspar Co. at Salem.

Wisconsin.-- The Wisconsin zinc and lead mining are a embraces the largest part of the Upper Mississippi Valley region, which extends into adjacent parts of Illinois and Iowa. The Iowa part has had no production since 1917. The total regional output of finished (60-per cent) zinc concentrates was 34,616 tons in 1945 and lead concentrates 2,766 tons compared with 31,819 and 2,085 tons, respectively, in 1944. Of the total output in 1945, Northern Illinois contributed 6,700 tons of zinc concentrates (60-per cent basis) and 670 tons of lead concentrates compared with 3,123 and 131 tons, respectively, in 1944. The regional output of recoverable zinc in 1945 (19,165 tons) was the largest since 1927 and compares with 7,956 tons in 1941, the year before the Government began paying premiums which enabled the mining of lower-grade ore. With the recent expansion of the productive area south of Galena and general progress made in mechanizing underground operations, the region can probably support a sizeable mining industry for many years if the price of and demand for zinc and lead are sufficient to warrant the mining of low-grade ore (3.5 to 4.5 per cent zinc-lead content).

Since 1942 part of the crude ore produced in the region has been sold to the Metals Reserve Co. and stockpiled at the Vinegar Hill Zinc Co. custom flotation mill at Cuba City, Wisconsin. The metal output from the stockpiled ore is credited to the production of the year in which the ore is milled rather than to the year in which it is mined.

The Vinegar Hill mill, principal producer of finished concentrates in the region, treats crude ore and rougher jig zinc-iron-lead concentrates purchased from operators in both Wisconsin and Northern Illinois. Besides zinc and lead concentrates, the mill produces iron concentrates used in making sulfuric acid in the company plant adjoining the mill. The mill feed in 1945 totaled about 172,300 tons yielding 24,945 tons of zinc concentrates and 1,687 tons of lead concentrates compared with 175,815 tons yielding 26,067 tons of zinc concentrates and 1,415 tons of lead concentrates in 1944. Wisconsin shippers of rougher jig concentrates to the mill in 1945 were the C. F. & H. Mining Co. (Mulcahy mine), the Liberty Mining Co., and the New Lucky Hit Mining Co. (Coughlin, Wilkins). The principal Wisconsin shippers of crude ore to the mill were the Cuba Mining Co. (Andrews mine), Gill Bros. (James), Meloy & Baker (Hoskins, Martin); the Thompson, North Star, Piquette (Trego mine), Kittoe, Fox (Cottingham), Hofer (Boyle), Little Grant (Arensdorf & Murray), Pittsburg, and Deuce (New Harty) mining companies; Whitechurch & Farr (Little Mullen), and Harold Reinke Partnership (Federal).

The Dodgeville Mining Co. operated its mill at Dodgeville on ore from the Dodgeville mine (a group of city lots) until June, when the mine was cleaned up and abandoned; the mine equipment was then moved to the newly-developed Simpson mine, which furnished ore for the mill the rest of the year. The W. E. Faithorn mill at New Diggings operated on ore from the reopened Champion mine. The producing tailing mills were the United Milling & Mining Co. 2,000-ton plant on the Coker property near Livingston; the Chestnut Hill Zinc Co. 200-ton mill on the Field property near Shullsburg; and the new Northwest Zinc Co. 2,000-ton mill at the Kennedy tailing pile east of Hazel Green, operated from July through December. The tailing mills together produced 4,666 tons of zinc concentrates averaging 61.06 per cent zinc.

The exploratory program of the Bureau of Mines and Geological Survey was curtailed after the Allied Victory in Europe. Wisconsin zinc-lead properties drilled in 1945 included the Coker near Livingston, the Dale Rundell near Mifflin, and the Piquette, Schmitz, and Pluemer in the Tennyson area.

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MINERAL INDUSTRY SURVEYS
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
HAROLD L. ICKES, Secretary R. R. SAYERS, Director

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Mineral Market Reports
M. M. S. No. 1364

METAL MINING IN ARIZONA, 1945 - PRELIMINARY ANNUAL FIGURES

The outstanding features of the year in metal mining in Arizona were the marked decrease in output of copper ore from each of the seven large copper-producing districts and the marked increase in output of zinc-lead ore from the Copper Queen mine at Bisbee, the Mammoth-St. Anthony property at Tiger, and the Iron King mine at Humboldt, according to the Salt Lake City Office of the Bureau of Mines, United States Department of the Interior. Arizona ores and gravels in 1945 yielded gold, silver, copper, lead, and zinc valued at $95,034,700, a 16-percent loss from 1944. Trends in evidence in the 1943-1944 period continued into 1945 with the result that the outputs of gold, silver, and copper decreased, but those of lead and zinc increased.

The drop in the output of copper ore not only resulted in a notable decline in production of copper but also in production of gold and silver, as copper ore is the principal source of gold and silver in Arizona. The shortage of labor was the chief cause of the decrease in output of copper ore. The War Production Board gold-mine closing order (L-208), issued October 8, 1942, was rescinded July 1, 1945, but no revival at gold mines in Arizona was noticeable during the last 6 months of the year.

Six copper smelters were active in Arizona in 1945--at Clarksdale, Douglas, Hayden, Miami, Morenci, and Superior; the total rated capacity of these smelters is about 4,750,000 tons of charge per year, but the charge in 1945 was much less than that in 1944. Zinc concentrates produced at mills in Arizona in 1945 were shipped to smelters at Amarillo, Dumas, and Corpus Christi, Tex., and Bartlesville, Okla., and nearly all the lead concentrates were shipped to El Paso, Tex.

Production in 1945 (in terms of recoverable metals) was 75,000 fine ounces of gold, 3,357,000 fine ounces of silver, 571,000,000 pounds of copper, 41,500,000 pounds of lead, and 76,500,000 pounds of zinc. These figures compare with outputs in 1944 of 112,162 ounces of gold, 4,394,039 ounces of silver, 716,606,000 pounds of copper, 33,414,000 pounds of lead, and 58,154,000 pounds of zinc, indicating decreases in 1945 of 37,162 ounces in gold, (33 percent), 1,037,039 ounces in silver (24 percent), and 145,606,000 pounds in copper (20 percent), but an increase of 8,086,000 pounds in lead (24 percent), and 18,346,000 pounds in zinc (32 percent). The preliminary figures for 1945 are based on actual mine production reported by operators and receipts at smelters and the United States mints covering 10 months, with November and December production calculated from other sources of information.

Prepared by C. E. Needham and Paul Luff, Salt Lake City Office, Metal Economics Division, Economics and Statistics Branch.

At the average prices used by the Bureau of Mines, the gross calculated values of the outputs of these metals in Arizona in 1945, with comparative figures for 1944 in parentheses, were: Gold, \$2,625,000 (\$3,925,670); silver, \$2,387,200 (\$3,124,650); copper, \$77,656,000 (\$96,741,810); lead, \$3,569,000 (\$2,673,120); and zinc, \$8,797,500 (\$6,629,556)--a total of \$95,034,700 in 1945 compared with \$113,094,806 in 1944.

The price of gold (\$35 per ounce) and silver (\$0.711+ per ounce), fixed by the United States Government, remained unchanged from 1944 throughout 1945. The average weighted yearly price of copper was \$0.136 in 1945 compared with \$0.135 in 1944, lead \$0.086 compared with \$0.080, and zinc \$0.115 compared with \$0.114. The average weighted price of copper, lead, and zinc in 1945 includes that portion of total sales paid for at premium rates.

About 82 percent of the gold and 75 percent of the silver produced in Arizona in 1945 were recovered from copper ore mined at Bisbee, Ajo, Jerome, Superior, Morenci, and Miami. The rest of the gold came largely from zinc-lead ore from a mine in the Big Bug district. Most of the remaining silver came from zinc-lead ore from the Big Bug, Harshaw, Pima, Warren (Bisbee), and Old Hat districts, zinc-copper ore from the Pioneer district, and silver ore from the Ash Peak district.

There was a marked decrease in production of gold from copper ore, but that from zinc-lead ore increased. The output of gold from placers increased from 242 ounces in 1944 to an estimated 460 ounces in 1945. The largest producers of gold in Arizona in 1945 were the New Cornelia, Copper Queen, United Verde, Iron King, Morenci, Magma, and Denn mines; these seven properties produced 91 percent of the State total. The Ajo district produced 24,500 ounces of gold in 1945, a decrease of 4,520 ounces from 1944; the Warren (Bisbee) district ranked second with 17,000 ounces, a decrease of 21,401 ounces; the Verde district was third with 8,600 ounces, a decrease of 20 ounces; the Big Bug district was fourth with 8,000 ounces, an increase of 2,591 ounces; the Pioneer (Superior) district was fifth with 5,500 ounces, a decrease of 1,130 ounces; and the Copper Mountain (Morenci) district was sixth with 5,250 ounces, the same as in 1944.

The decrease of 24 percent in output of silver in Arizona in 1945 resulted largely from a decline in output of copper ore from the Copper Queen, United Verde, New Cornelia, and Magma properties. About 77 percent of the State silver output in 1945 came from the Copper Queen, United Verde, New Cornelia, and Morenci mines of the Phelps Dodge Corp. and the Iron King and Magma mines. The output of silver from the Warren district, the principal silver-producing area in Arizona, decreased from 1,550,506 ounces in 1944 to about 1,066,000 ounces in 1945; the Verde district from 589,538 to 485,000 ounces; the Ajo district from 319,320 to 285,000 ounces; and the pioneer (Superior) district from 386,429 to 250,000 ounces. The output of silver from the Copper Mountain (Morenci) district was about the same as that in 1944 (281,153 ounces), but that from the Big Bug district increased from 229,490 to 310,000 ounces.

Arizona continued as the largest copper-producing State, but its output in 1945 (571,000,000 pounds) was 20 percent less than that in 1944; the output declined from a high of about 52,455,000 pounds in March to a low of about 43,700,000 pounds in September. The Morenci mine was by far the largest producer of copper in Arizona in 1945; it was followed by the New Cornelia, Inspiration, Castle Dome, Miami, United Verde, Kennecott (Ray mine), Copper Queen, Magma, Bagdad, and Denn properties. These 11 mines contributed about 561,000,000 pounds, compared with 11 mines producing 699,629,351 pounds in 1944, or 98 percent of the State total.

The Copper Mountain (Morenci) remained the chief copper-producing district in Arizona in 1945, although its output declined from 213,851,000 pounds in 1944 to about 200,000,000 pounds in 1945; the Globe (Inspiration-Miami) district was second, its output decreasing from 190,609,200 to 157,000,000 pounds; the Ajo district ranked third, decreasing from 92,500,000 to about 75,500,000 pounds; the Verde district ranked fourth, decreasing from 52,429,000 to 40,250,000 pounds; and the Mineral Creek (Ray) district ranked fifth, decreasing from 54,904,200 to 38,500,000 pounds. The output from the Warren district decreased from 65,366,000 to 25,500,000 pounds and that from the Pioneer (Superior) district from 25,444,800 to 16,600,000 pounds.

The output (41,500,000 pounds) of lead in Arizona in 1945 was the largest in any year in the history of the State and 24 percent greater than in 1944. This gain was due chiefly to the marked increase in output of zinc-lead ore from the Copper Queen mine at Bisbee, which was by far the largest producer of lead in Arizona in 1945. Other large producers of lead were the Mammoth-St. Anthony property at Tiger, the Iron King at Humboldt, the San Xavier (Eagle-Picher Mining & Smelting Co.) south of Tucson, the Trench-Flux near Patagonia, and the Tennessee-Schuylkill at Chloride. About 98 percent of the lead output in 1945 was recovered from zinc-lead ore and the rest largely from lead ore.

The output (76,500,000 pounds) of zinc in Arizona in 1945 exceeded the record output of 1944 by 18,346,000 pounds (32 percent) and resulted principally from a notable increase in output from the Copper Queen, Mammoth-St. Anthony, and Iron King properties. These three properties produced nearly 73 percent of the State zinc output in 1945. Other large producers of zinc were the San Xavier, Trench-Flux, Magma, Republic (Coronado Copper & Zinc Co.), and Tennessee-Schuylkill properties. About 90 percent of the zinc output in 1945 was recovered from zinc-lead ore and nearly all the remainder from zinc-copper ore. The Coronado Copper & Zinc Co. completed erecting in May a 150-ton flotation mill at its property near Dragoon and began shipping in June zinc concentrates and copper concentrates.

The output of ore and old tailings in Arizona in 1945 was about 29,600,000 tons, a decrease of 6,300,641 tons from 1944. Most of the loss was in copper ore from the Globe-Miami, Ajo, Copper Mountain (Morenci), Warren (Bisbee), Verde, Mineral Creek (Ray), and Pioneer (Superior) districts; the total output of copper ore decreased from 35,288,865 to about 29,000,000 tons. There was also a decrease in output of siliceous gold ore, gold-silver ore, silver ore, lead ore, zinc-copper ore, and zinc-lead-copper ore, but a marked increase in zinc-lead ore.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

HAROLD L. ICKES, Secretary
R. R. SAYERS, Director

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METAL MINING IN IDAHO, 1945 - PRELIMINARY ANNUAL FIGURES

Lead production in Idaho in 1945 was the smallest since 1899 according to preliminary figures released by the Salt Lake City Office of the Bureau of Mines, United States Department of the Interior. Idaho ores and gravels in 1945 yielded gold, silver, copper, lead, and zinc valued at $36,370,800, a 15-percent loss from 1944. The output of each metal was less than that in 1944; gold declined 16 percent, silver 21 percent, copper 1 percent, lead 19 percent, and zinc nearly 15 percent. However, Idaho again led the Western States as a producer of both lead and of zinc, and its position as the largest producer of silver in the United States has remained unchallenged since 1933.

The outstanding features of the year in metal mining in Idaho were the marked decrease in output of zinc-lead ore, silver ore, and lead-silver ore from mines in the Coeur d'Alene region; the suspension December 19 of mining operations--resulting from a fire--on the 2,900 level of the Sunshine mine; the rescinding July 1 of L-208 (the War Production Board gold-mine closing order of October 8, 1942); and the notable decline in the State output of silver, lead, and zinc. Although L-208 was rescinded July 1 no activity at gold mines was reported until October when the Idaho-Canadian Dredging Co. resumed bucket dredging at its placer property in Boise County.

The shortage of labor at mines in Idaho continued to be the principal cause for curtailment in operations in all the larger producers of zinc-lead ore, silver ore, and lead-silver ore in the Coeur d'Alene region, which is one of the most important zinc-lead-silver-producing areas in the United States. At the present time (December 1945) about 2,500 additional miners are needed at the base-metal mines in Idaho.

Idaho has one lead smelter and refinery--the Bunker Hill & Sullivan Mining & Concentrating Co. plants at Bradley. The annual rated capacity of the smelter is 225,000 tons of feed per year, but in 1945 the plant was operated below capacity on crude ore and concentrates chiefly from mines and mills in the Coeur d'Alene region. The company also operated its antimony, bismuth, and zinc slag-fuming plants at Bradley. In 1945 the zinc slag-fuming plant treated about 147,700 tons of hot current slag and reclaimed cold slag, which produced 23,600 dry tons of zinc fume and 1,820 tons of lead fume; in 1945 it was the largest producer of zinc in the State. The Sullivan Mining Co. operated continuously at capacity its 100-ton electrolytic zinc plant (450-cell) near Bradley on zinc and zinc-lead concentrates produced mainly from concentration mills in the Coeur d'Alene region. The Metals Reserve Company and the Sullivan Mining Co. continued to stock-pile zinc concentrates at Bradley, which came chiefly from the Star mill, and the Bunker Hill & Sullivan Mining & Concentrating Co. stock-piled zinc concentrates near its mill at Kellogg.

Prepared by C. E. Needham and Paul Luff, Salt Lake City Office, Idaho mills treating zinc-lead ore and old tailings in 1945 had a total rated milling capacity of about 9,000 tons of ore per day, and mills treating lead ore approximately 2,000 tons. Seven of the principal concentrating mills that treated zinc-lead ore were: The Bunker Hill & Sullivan (1,800-ton) at Kellogg; the Morning (1,300-ton) at Mullan; the Star (1,000-ton) at Burke; the Hecla (900-ton) at Burke; the Page (500-ton) near Kellogg; the Tamarack & Custer (400-ton) near Burke; and the Polaris (300-ton) near Osburn. The Sunshine Mining Co. operated throughout the year its 1,200-ton concentrator near Kellogg on silver-lead ore and silver ore from the Sunshine, Polaris, Silver Dollar, and Silver Syndicate mines. Antimony, tungsten, and antimony-gold concentrates were produced throughout 1945 in the 600-ton mill of the Bradley Mining Co. at Stibnite, and tungsten concentrates and silver-copper-lead concentrates were produced in the 200-ton Ima mill at Patterson. The Hecla Mining Co. operated continuously its 2,500-ton sink-float-flotation plant at Osburn on old zinc-lead tailings. The sink and float unit screened and cleaned about 850,000 tons of old tailings in 1945; part of the resulting, zinc-lead middlings was treated in the flotation unit at the plant, and part was shipped to the Hecla and Polaris flotation mills where it was separated into lead concentrates and zinc concentrates.

Production in 1945 (in terms of recoverable metals) was 21,000 fine ounces of gold, 7,857,000 fine ounces of silver, 3,350,000 pounds of copper, 135,500,000 pounds of lead, and 156,000,000 pounds of zinc. These figures compare with an output in 1944 of 25,008 ounces of gold, 9,931,614 ounces of silver, 3,376,000 pounds of copper, 167,060,000 pounds of lead, and 182,744,000 pounds of zinc, indicating decreases in 1945 of 4,008 ounces in gold, 2,074,614 ounces in silver, 26,000 pounds in copper, 31,560,000 pounds in lead, and 26,744,000 pounds in zinc. The preliminary figures for 1945 are based on actual mine production reported by operators and receipts at smelters and the United States mints covering 10 months, with November and December production calculated from other sources of information.

At the average prices used by the Bureau of Mines, the gross calculated value of the output of these metals in Idaho in 1945, with comparative figures for 1944 in parentheses, was: Gold, $735,000 ($875,280); silver, $5,587,200 ($7,062,481); copper, $455,600 ($455,760); lead, $11,653,000 ($13,364,800); and zinc $17,940,000 ($20,832,816)—a total of $36,370,800 in 1945 compared with $42,591,137 in 1944.

The price of gold ($35 per ounce) and silver ($0.711+per ounce), fixed by the United States Government, remained the same throughout 1945. The average weighted yearly price of copper was $0.136 in 1945 compared with $0.135 in 1944, lead $0.086 compared with $0.080, and zinc $0.115 compared with $0.114. The average weighted prices in 1945 of copper, lead, and zinc include that portion of total sales paid for at premium rates.

The output (21,000 ounces) of gold in Idaho in 1945 declined 16 percent from that in 1944. This decrease resulted mainly from the suspension November 1, 1944, of treating gold ore from the Boise-Rochester-Monarch group at Atlanta by the Talache Mines Co. About 80 percent of the gold produced in Idaho in 1945 was recovered from gold-tungsten-antimony ore from the Yellow Pine mine at Stibnite, zinc-lead ore from the Triumph property near Hailey, zinc-lead ore from various mines in the Coeur d'Alene region, and bucket dredging in Boise County. The output of gold from lode mines was about 18,300 ounces in 1945 compared with 24,872 ounces in 1944 and that from placers 2,700 ounces compared with 136 ounces. The Idaho-Canadian Dredging Co. resumed (in October) operating its 7½-cubic foot bucket dredge at Idaho City in Boise County; it has been idle since the War Production Board gold-mine closing order issued in October 1942.

The output of silver in Idaho in 1945 was 21 percent less than that in 1944, owing chiefly to substantial decreases in output of silver ore and lead-silver ore from the Sunshine, Polaris, and Mineral Point (Coeur d'Alene Mines Corp.), and in zinc-lead ore from the Bunker Hill & Sullivan, Page, Triumph, Hecla, Clayton, Tamarack & Custer, Morning, and Star mines; however, a marked increase in output of silver was made from treating old tailings from the Osburn dump. About 44 percent of the State output of silver in 1945 was recovered from zinc-lead ore and old tailings, and the remainder largely from lead ore and silver ore. The Sunshine mine remained the largest producer of silver in the State; it was followed by the Polaris, Bunker Hill & Sullivan, Osburn tailing dump, Silver Dollar, Triumph, Page, Morning, Sherman, Star, Clayton, Mineral Point, and Silver Syndicate mines, all in the Coeur d'Alene region except the Triumph and Clayton properties.

The copper output of Idaho in 1945 was approximately 3,350,000 pounds, a 1-percent loss from 1944; most of the copper was recovered as a byproduct in the treatment of silver ore and zinc-lead ore and old tailings from mines in the Coeur d'Alene region.

Lead production in Idaho in 1945 was 19 percent less than that in 1944, and it was the smallest output in any year since 1899, owing chiefly to notable decreases from the Bunker Hill & Sullivan, Page, Hecla, Star, Tamarack & Custer, Morning, Polaris, Sunshine, Triumph, and Clayton properties; however, substantial increases were made from the Osburn and Sweeny tailing dumps. The Bunker Hill & Sullivan mine remained the largest lead producer in Idaho in 1945, but its output declined about 30 percent from that in 1944. Other large producers of lead in order of output were the Osburn tailings, Morning, Star, Page, Sweeny tailings, Sherman, Triumph, Tamarack & Custer, Frisco, Bunker Hill smelter slag, Monitor, Sunshine, Dayrock, and Polaris properties; the first 9 properties--each with an output of more than 4,000,000 pounds of lead-produced 65 percent of the State total. About 85 percent of the State lead output came from zinc-lead ore and old tailings, and the remainder largely from lead ore.

The output of recoverable zinc (156,000,000 pounds) in Idaho in 1945 was nearly 15 percent less than that in 1944, but again it was greater than the lead output. The marked decreases in zinc output from the Bunker Hill & Sullivan, Star, Tamarack & Custer, Page, Morning, and Triumph properties more than offset the large increases from the Bunker Hill & Sullivan zinc slag-fuming plant and Osburn tailings. Substantial increases in zinc output were recorded also from the Sidney, Sweeny tailings, Interstate-Callahan (Daylight Lease), Spokane-Idaho, and Sunset properties. The Bunker Hill zinc slag-fuming plant was the largest producer of zinc in Idaho in 1945, followed by the Star, Osburn tailings, Morning, Page, Monitor, Tamarack & Custer, Frisco, Triumph, Little Pittsburg, Bunker Hill & Sullivan mine, Spokane-Idaho, Highland Surprise, Sunset, Sweeny tailings, Sidney, Canyon Creek tailings, and Douglas properties. These 18 properties, all in the Coeur d'Alene region except the Triumph, produced 94 percent of the State total.

About 3,000,000 tons of ore and old tailings were treated in Idaho in 1945 compared with 3,271,038 tons in 1944. This loss resulted principally from less zinc-lead ore, lead ore, silver ore, and gold ore treated in 1945 than in 1944. Approximately 88 percent of the total in 1945 came from 40 mines and 8 tailing dumps in the Coeur d'Alene region; the remainder was mostly gold-tungsten-antimony ore from Valley County, zinc-lead ore from Blaine, Custer, and Valley Counties, and silver-tungsten ore from Lemhi County.

The Coeur d'Alene region of Shoshone County, Idaho, is one of the most important silver-lead-zinc producing districts in the United States; however, its output of silver, lead, and zinc in 1945 was much less than that in 1944. In 1945 about 40 mines and 8 tailing dumps in the region produced 91 percent of the State silver output, 76 percent of the copper, 93 percent of the lead, and 94 percent of the zinc; the rest of the silver, copper, lead, and zinc came largely from the Warm Springs district in Blaine County, the Bay Horse district in Custer County, the Deadwood Basin district in Valley County, the Lava Creek district in Blaine and Butte Counties, and the South Mountain district in Owyhee County. The production of gold from the Coeur d'Alene region decreased from 2,075 ounces in 1944 to 1,950 ounces in 1945, silver from 8,669,371 to 7,120,000 ounces, copper from 2,578,000 to 2,550,000 pounds, lead from 153,625,000 to 126,500,000 pounds, and zinc from 170,454,000 to 146,500,000 pounds. Following the Coeur d'Alene region, the Warm Springs district near Ketchum, Blaine County, remained the most important producing area in Idaho, although its output of each metal was less than in 1944. The output of the district was virtually all zinc-lead ore from the property operated by the Triumph Mining Co., which treated about 62,000 tons of marginal zinc-lead ore in its own 300-ton concentration mill at Triumph, Idaho, and shipped about 30,500 tons of zinc-lead ore to Bauer (Utah) for reduction.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

HAROLD L. ICKES, Secretary R. R. SAYERS, Director

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Mineral Market Reports
M. M. S. No. 1366

METAL MINING IN MONTANA, 1945 - PRELIMINARY ANNUAL FIGURES

Montana ores and gravels in 1945 yielded gold, silver, copper, lead, and zinc valued at $39, 134,900, a 20-percent decrease from 1944, according to the Salt Lake City Office of the Bureau of Mines, United States Department of the Interior. The output of each metal was less than that in 1944; gold declined 9 percent, silver 12 percent, copper 23 percent, lead 8 percent, and zinc more than 22 percent.

The outstanding features of metal mining in Montana in 1945 were the large decrease in the tonnage of copper waste material and crude copper-mine ore treated at the Anaconda Copper Mining Co. copper reduction plants at Anaconda; the decline in production of zinc from the slag-fuming plant at East Helena and from mines at Butte; the resumption in July of bucket dredging on Last Chance Gulch in Lewis and Clark County by Porter Brothers Corp.; and the continued shortage of manpower at virtually all mines in Montana. The shortage of labor at the mines, mills, and smelters in Montana in 1945 was the most acute yet experienced. The rescinding July 1, 1945, of L-208 (the War Production Board gold-mine closing order of October 8, 1942) resulted in increased activity at gold mines in Montana during the last six months of the year especially at placer properties; however, the inability of mining companies to obtain new equipment is still preventing large-scale operations at gold lode mines.

The general policy of the Metals Reserve Company pertaining to the premium-price plan for overquota production of domestic copper, lead, and zinc as revised in the latter part of 1943 prevailed throughout 1945.

The Anaconda Copper Mining Co. operated its copper smelter, zinc smelters, and concentration mills continuously in 1945 but at a lower rate than in 1944. The capacity of the copper smelter at Anaconda remained at 1,300,000 tons of charge per year. The combined capacity of the electrolytic zinc smelters at Anaconda and Great Falls remained at 245,000 tons of slab zinc per year. During the year the plants treated a total of about 373,500 tons of zinc concentrates containing about 404,000,000 pounds of zinc, compared with 469,412 tons and 510,740,695 pounds respectively in 1944. The concentrates were received from mills in Idaho, California, Montana, Nevada, New Mexico, Utah, Colorado, and several foreign countries. The copper concentrator and the zinc concentrator, both at Anaconda, had a rated daily capacity of 16,200 tons of ore and 2,000 tons of ore respectively.

Prepared by C. E. Needham and Paul Luff, Salt Lake City Office, Metal Ecomics Division, Economics and Statistics Branch.

The lead smelter at the American Smelting & Refining Co. at East Helena treated chiefly lead-silver concentrates from the Coeur d'Alene region in Idaho, residues from the electrolytic zinc plants of the Anaconda Copper Mining Co. at Great Falls and Anaconda, and crude ores, oil tailings, and concentrates from various districts in Montana. The plant was active throughout 1945 except for brief shutdowns for the purpose of making repairs.

The zinc-fuming plant at East Helena was operated at below capacity (average of about 16,500 tons of slag per month) throughout the year except for short shutdowns for making repairs. The output of zinc-lead fume decreased from 38,115 tons in 1944 to about 32,200 tons in 1945; nearly all was treated at the Great Falls zinc smelter of the Anaconda Copper Mining Co.

Production in 1945 (in terms of recoverable metals) was 45,500 fine ounces of gold, 6,219,000 fine ounces of silver, 181,000,000 pounds of copper, 24,000,000 pounds of lead, and 56,000,000 pounds of zinc. These figures compare with an output in 1944 of 50,021 fine ounces of gold, 7,093,215 fine ounces of silver 236,380,000 pounds of copper, 26,210,000 pounds of lead, and 72,254,000 pounds of zinc, indicating decreases in 1945 of 4,521 ounces of gold, 874,215 ounces of silver, 55,380,000 pounds of copper, 2,210,000 pounds of lead, and 16,254,000 pounds of zinc. The preliminary figures for 1945 are based on actual mine production reported by operators and receipts at smelters and the United States mints covering 10 months, with November and December production calculated from other sources of information.

At the average prices used by the Bureau of Mines, the gross calculated value of the output of these metals in Montana in 1945, with comparative figures of 1944 in parentheses, was: Gold, $1,592,500 ($1,750,735); silver $4,422,400 ($5,044,064); copper, $24,616,000 ($31,911,300); lead, $2,064,000 ($2,096,800); and zinc, $6,440,000 ($8,236,956); a total of $39,134,900 compared with $49,039,855 in 1944.

The price of gold and silver fixed by the United States Government remained the same throughout 1945 and was $35 per fine ounce and $0.711+ per fine ounce respectively. The average weighted prices paid for base metals, including premium payments were: copper, $0.136; lead, $0.086; and zinc $0.115; however, the base prices of copper, lead, and zinc have remained unchanged since February 1942--copper has been $0.12 a pound, lead $0.065 a pound (New York), and zinc $0.0825 a pound.

The output of gold in Montana in 1945, in terms of recoverable metal, was 45,500 fine ounces, a 9-percent decrease from 1944. Most of the gold produced was a byproduct of mining operations carried on to produce base metals or other strategic minerals. The loss in gold output in 1945 compared with 1944 can be attributed mostly to a smaller output from the Anaconda Copper Mining Co. copper-producing operations, a greatly reduced output of gold from the Estelle mine in Park County, the Golden Sunlight mine in Jefferson County, and the Boaz mine in Madison County, and the suspension in June 1944 of bucket dredging at the Eldorado Bar in Lewis and Clark County. The output of gold from placer operations was about 9,000 ounces in 1945 compared with 6,223 in 1944; more than 94 percent of the total output came from two bucket dredges. The H. & H. Mines operated its 3½-cubic foot bucket dredge on Henderson Creek in Granite County from April to November 1, and Porter Brothers Corp. resumed (in July) bucket dredging at its property on Last Chance Gulch in Lewis ~~and~~ Clark County. The H. & H. dredge recovers scheelite in addition to gold from the placer gravels.

Lode mines produced about 36,500 fine ounces of gold in 1945 compared with 43,798 fine ounces in 1944. The Anaconda Copper Mining Co. produced about 29 percent of the gold output from lode mines from its copper operations at Butte and Anaconda (including treatment of crude mine ore as well as waste materials). Other leading gold producers were the Jardine Mining Co. at Jardine, which treated gold-bearing arsenical ore by flotation, amalgamation, and cyanidation, the Golden Sunlight mine near Whitehall, the Granite-Bimetallic tailings at Philipsburg, the U. S. Grant mine at Virginia City, and the McLaren Gold Mines at Cooke City.

The output of recoverable silver in Montana again showed a substantial decrease from the previous year--874,215 ounces or 12 percent. Most of the decrease resulted from a much smaller output of silver from the Anaconda Copper Mining Co. copper-producing operations at Butte and Anaconda; however, the company supplied 81 percent of the State total output of silver. Other important sources of silver included the Granite-Bimetallic tailings at Philipsburg, the North Butte Mining Co. operation at Butte, byproduct silver from the Emma mine at Butte, the Mike Horse mine near Flesher, and the Elkhorn dump at Elkhorn. About 77 percent of the total State output of silver was derived from copper ores and tailings, 10 percent from zinc-lead, zinc, and lead ores, and the remainder principally from siliceous ores.

The output of recoverable copper in Montana in 1945 was 181,000,000 pounds, the smallest yearly production since 1938 and 38 percent less than the yearly average of 290,205,290 pounds during the war period 1914-18. About 95 percent of the State copper was derived from copper ore, old tailings, and mine-water precipitates from properties of the Anaconda Copper Mining Co. at Butte and Anaconda; the remainder was recovered mostly from the North Butte mine also at Butte. The output of copper from the Butte district decreased from 234,725,400 pounds in 1944 to about 180,000,000 pounds in 1945. There was a marked decrease in the tonnage of waste material and crude mine ore treated at the Anaconda reduction works in 1945; other than crude mine ore, the material consisted principally of reduction works sand tailings, Butte and Boston mine dumps and old tailings, Parrot and Colorado tailings, High ore dump, special exploration ore, and special waste, all from properties owned or controlled by the Anaconda Copper Mining Co. Copper ore, old tailings, mine-water precipitates, and zinc-lead ore from Butte yielded recoverable gold, silver, copper, lead, and zinc valued in all at about $30,700,000 in 1945 compared with $38,743,789 in 1944; or more than 78 percent of the State total of the five metals.

The output of recoverable lead in Montana in 1945 was approximately 24,000,000 pounds, an 8-percent decrease from that in 1944 and the lowest yearly output since 1938. The drop in lead production was the result of a smaller yield in 1945 from the Jack Waite, Mount Washington, and Silver Cable mines, and Alloy dump, although a substantial increase was made from the Mike Horse mine. Nearly half of the lead production in Montana was derived from a large number of relatively small producers, none of which produced over 800,000 pounds of recoverable metal. The Mike Horse mine near Flesher was again the largest producer of lead in the State and was followed by the Emma mine at Butte, the slag-fuming plant at East Helena operated by the Anaconda Copper Mining Co., the Anaconda property at Butte, the Jack Waite mine in Sanders County, the Poulin mine at Butte, and the Toledo-Buckeye group near Sheridan.

The output of recoverable zinc in Montana in 1945 was about 56,000,000 pounds 22 percent less than that in 1944 and nearly 70 percent less than the yearly average of 184,700,799 pounds during the war period 1914-18. The loss resulted principally from a decline in output of zinc from the zinc slag-fuming plant at East Helena, and from the Emma, Silver Cable, Mount Washington, and Iron Mask properties. At the Emma mine the ore was chiefly valuable for its manganese content, and zinc was a byproduct. Properties producing zinc in 1945 owned or controlled by the Anaconda Copper Mining Co.--including the slag-fuming plant at East Helena, the Emma, Poulin, and Travona mines at Butte, and all other zinc mines at Butte--contributed a total of about 89 percent of the State total output of zinc. About 63 percent of the total State output of zinc was derived from current slag fumed at East Helena. Other large producers of zinc in 1945 in order of output were the Emma, Poulin, Mike Horse, Toledo-Buckeye, Travona, Anaconda, and Forest Rose properties.

The output of ore and old tailings in Montana in 1945 was about 5,150,000 tons compared with 6,049,462 tons in 1944. There were substantial decreases in the output of old tailings and other waste products valued chiefly for their copper content, and in the output of crude copper ore, zinc-lead ore, and siliceous ores.

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HAROLD L. ICKES, Secretary R. R. SAYERS, Director

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MINERAL MARKET REPORTS
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COPPER IN 1945
(Preliminary Report)

Copper, in common with most other commodities, was subject to widely varying supply-demand conditions during 1945, but because of the close relationship between the consumption of copper and the production of armaments, this metal faced more drastic changes than most other products, according to the Bureau of Mines, U. S. Department of the Interior. As the year opened war plans carried provisions for record quantities of copper (the total was believed in many quarters at the time to be excessive) and demand in the early months of the year exceeded the previous record rate by a substantial margin. Deliveries for consumption dropped sharply following Germany's surrender and further after Japan capitulated. In consequence deliveries of duty-free and duty-paid copper to customers (according to the Copper Institute) in the third quarter of 1945 were only 48 percent of those in the first quarter; figures for the last quarter are not yet available but the monthly average for October and November was 30 percent higher than that for July-September. Consumption for the year as a whole, based on computations of the Bureau of Mines for new copper available for consumption during the year, decreased 6 percent from the total for 1944, which in turn was a little below the peak war rate in 1942.

Despite the large demand for copper early in 1945 and the fact that proposed legislation assured the continuation of bonus payments at least until June 30, 1946, monthly mine production rates in 1945 were at or below the lowest levels attained in 1944. The reduction for the year was somewhat over 20 percent. Bonuses were paid on a higher percentage of production in 1945 than previously, payments covering between 25 and 30 percent of the total. This phenomenal situation is explained chiefly by the shortage of labor and by its overall inefficiency.

Smelter and refinery production from domestic ores, each dropped about 20 percent. Refinery output from foreign ores and concentrates, on the other hand, gained 31 percent, so that total refinery output of new copper declined only 10 percent.

Imports of refined copper again established a new high rate in 1945, following successive peaks in every year beginning in 1941. Figures for December are not yet available but for January-November, inclusive, the total was 488,478 tons compared with the previous record of 492,395 tons for 12 months of 1944. Total imports of unmanufactured copper for 11 months of 1945 (788,383 tons) were higher than in the entire year 1944 (787,219), thus establishing another high record. The gain was due mainly to the record receipts of the refined class, although unrefined blister receipts were notably above those for 1944. The gain in the latter class was due

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Prepared by Helena M. Meyer, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

chiefly to imports of nearly 60,000 tons from Northern Rhodesia in eleven months of 1945, compared with none credited to that source in 1944, and to increased receipts from Belgian Congo and Mexico. By contrast, receipts of unrefined copper from Chile decreased sharply.

Exports of refined copper, when 12 months' totals are available, will probably show a drop of close to 20 percent. Shipments of the refined class tended to rise after the end of the war with Japan and in October almost equalled the 1945 peak monthly rate for May. In October, Italy and Switzerland were shown as export destinations of this class for the first time in recent years and these two countries took the bulk of shipments from the United States in that month. Except for rods and the unimportant unrefined group all classes of exports of copper will show declines in all of 1945 as compared with 1944. The wire class reported as "wire, other insulated", which had risen so precipituously since the war began, dropped sharply after July.

According to the report of the War Production Board on Wartime Achievements and the Reconversion Outlook, October 9, 1945 "as the supply of copper became easier, controls were gradually relaxed until May 1945, when the order prohibiting its use in nonessential civilian items was revoked. After July 1, 1945, CMP was 'open-ended' and copper became available for unrated orders. All restrictions on the use of copper and its alloys have now been removed." Early in September copper was removed from import control by a revision of General Import Order M-63.

Total stocks of blister and refined copper at smelters and refineries were expected to be 17 percent higher at the end of 1945 than at the beginning, as shown by one of the later tables. Inventories of fire-refined and electrolytic copper of the Office of Metals Reserve totaled 493,998 tons at the end of November 1945, a very small proportion of which was held in Canada.

Copper ceiling prices continued in effect throughout 1945 at the levels established in 1941.

Production. - Results of the preliminary survey on copper, covering 11 months' actual figures plus company estimates for December, are given below.

Copper produced by smelters from domestic ores, 1941-45, in short tons

1941	966,072
1942	1,087,991
1943	1,092,939
1944	1,003,379
1945	794,000

The estimated smelter production for December amounted to 67,000 tons or slightly above the average for the preceding 11 months. The total for the year was 21 percent less than in 1944.

Refinery production of new copper from domestic sources dropped 20 percent in 1945 and that from foreign sources increased 31 percent; altogether a decrease of 10 percent in total production from primary materials is indicated.

Refined copper produced at primary plants from domestic and foreign ores and from secondary material, 1941-45, in short tons

Year	Domestic ores	Foreign ores	Total new copper	Secondary
1941	975,408	419,901	1,395,309	99,675
1942	1,064,792	349,769	1,414,561	85,143
1943	1,082,079	297,184	1,379,263	122,464
1944	973,852	247,335	1,221,187	86,398
1945	776,000	324,500	1,100,500	85,500

Production of secondary copper at primary refining plants was estimated to have continued at virtually the 1944 rate.

Foreign trade. - Statistics on imports and exports are compiled from records of the Department of Commerce. Although complete data are not yet available total imports of unmanufactured copper in 1945 were higher than ever before due to record-breaking receipts of the refined class. Refined copper, as usual, came mainly from Chile.

Copper (unmanufactured) imported into the United States in January-October 1945, by countries, in short tons (general imports)

	Ore (copper content)	Concentrates (copper content)	Regulus, black or coarse copper (copper content)	Unrefined black blister and converter in pigs or converter bars	Refined in ingots, plates, or bars	Old and clippings for remanufacture
Belgian Congo	-	-	18,084	27,719	1/ 41,782	-
Bolivia	922	2,304	10	-	-	-
Canada	-	11,911	421	-	53,263	954
Chile	6,053	5,133	-	49,627	333,945	-
Cuba	217	7,225	-	-	-	-
Mexico	99	5,753	8	47,065	44	-
Newfoundland and Labrador	-	2,860	-	-	-	-
Northern Rhodesia	-	2/ 368	2/ 8	56,043	2/ 21,385	-
Peru	907	3,774	368	24,901	692	-
Union of South Africa	-	146	12	6,048	783	-
Other countries	3/	104	-	3,077	-	118
	8,198	39,578	18,911	214,480	451,894	1,072

1/ Includes copper credited to Portuguese Guinea and Angola.
2/ Includes copper credited to Southern Rhodesia and Mozambique, some of which may have originated in Belgian Congo.
3/ Less than one-half ton.

The foregoing table is based on 10 months' figures so that the data will conform to available export information. Import figures for November are available, however, and the totals by classes, were as follows:

	Short tons
Ore (copper content).......	5
Concentrates (do)........	2,254
Regulus (do)........	944
Unrefined.................	14,245
Refined...................	36,584
Old and scrap.............	218

The feature of the export market in recent years has been the sharp gains in shipments of insulated wire and cable. This class established new high records for 5 successive years but dropped sharply at the end of the war. Insulated wire and cable superceded refined copper as the chief export class in 1944 and continued preeminent in 1945. Refined copper had ranked first in the copper export group, usually by a very substantial margin, since before 1900.

Copper exported from the United States in January-October 1945, by countries, in short tons

Country	Ore, concentrates, composition metal and unrefined copper (copper content)	Refined in bars, ingots, etc.	Old and scrap	Pipes and tubes	Plates and sheets	Rods	Wire (bare)	Insulated wire and cable
Australia	–	1	–	1/	1/	1/	9	120
Brazil	–	4,756	–	570	645	319	26	125
Canada	1	49	2	270	67	115	124	904
Chile	–	3	–	28	4	5	121	533
France	–	3,646	–	–	–	–	–	344
India	–	1	–	9	2	–	51	2,740
Italy	–	4,408	–	–	–	–	–	–
Mexico	1	5,106	2	265	222	34	607	1,197
New Zealand	–	–	–	–	9	–	1	177
Switzerland	–	1,344	–	–	–	–	–	–
Union of South Africa	–	–	–	8	1	–	43	247
United Kingdom	30	19,281	–	1/	21	1/	1/	2,680
U.S.S.R.	–	123	–	1,060	529	1	5,591	35,500
Uruguay	–	154	–	59	59	1	167	1,042
Other countries	1	1,721	–	1,312	1,366	2,326	2,850	9,234
	33	40,593	4	3,581	2,925	2,801	9,590	54,843

1/ Less than one-half ton.

Stocks. - Producers estimated that stocks of refined copper at refineries would total 129,000 tons at the end of 1945, or a gain of 59 percent during the year. Stocks of blister at smelters, in transit to refineries and of unrefined materials at refineries were expected to be 6 percent higher at the end than at the beginning of the year. Bureau of Mines' stocks are on a physical basis showing metal at smelters and refineries and in transit to refineries, regardless of the ownership. The figures in the following table are duplicated in part, therefore, by stocks of the Office of Metals Reserve.

Stocks of copper at primary smelting and refining plants at the end of the year, 1941-45, in short tons

Year	Refined copper	Blister and unfinished materials
1941	77,500	240,000
1942	84,000	235,500
1943	68,500	241,000
1944	81,000	311,000
1945	129,000	330,000

Apparent consumption. - Preliminary figures indicate that 6 percent less new copper entered into consumption channels in 1945 than in 1944. These figures refer to apparent consumption, but they do not take consumers' and Metals Reserve Company inventories into account. Consumption of new copper, according to the calculations, approximated 1,527,500 short tons, compared with 1,632,709 tons in 1944. The method of calculation of apparent consumption is shown as follows:

New refined copper withdrawn from total year's supply on domestic account, 1944-45, in short tons

	1944	1945
Refinery production of new copper from domestic sources	973,852	776,000
Refinery production of new copper from foreign sources	247,335	324,500
	1,221,187	1,100,500
Imports of refined copper(Dec. 1945 estimated)	492,395	530,000
Total new refined	1,713,582	1,630,500
Stocks of new refined copper on January 1	68,500	81,000
Total supply	1,782,082	1,711,500
Exports of refined copper (ingots, bars, or other forms)(December 1945 estimated)	68,373	55,000
Stocks December 31	81,000	129,000
	149,373	184,000
Total withdrawn on domestic account	1,632,709	1,527,500

Prices. - Copper sold under ceiling price restrictions throughout the year. The ceilings were 12 cents a pound for electrolytic and Lake copper, delivered Connecticut Valley, and 11.75 cents a pound for casting copper, f.o.b. refinery. The average price for all grades of copper delivered in 1945, according to preliminary figures compiled by the Bureau of Mines, was 13.6 cents a pound f.o.b. refinery compared with 13.5 cents in 1944. These prices include allowances for bonus payments for the over-quota production of the mines and for special bonuses, as calculated from preliminary data made available by the Office of Price Administration.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

HAROLD L. ICKES, Secretary
R. R. SAYERS, Director

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For release January 23, 1946.

MINERAL MARKET REPORT
MMS NO. 1368

METAL MINING IN COLORADO, 1945 - PRELIMINARY ANNUAL FIGURES

Despite the rescinding of Order L-208 by the War Production Board effective July 1, Colorado gold output in 1945 was the smallest since 1873 and silver production the lowest since 1932, according to the Denver office of the Bureau of Mines, United States Department of the Interior. Mines in Colorado yielded (in terms of recoverable metals) 99,811 fine ounces of gold, 2,178,675 fine ounces of silver, 2,762,000 pounds of copper, 32,656,000 pounds of lead, and 72,270,000 pounds of zinc. These preliminary figures are based on 11 months actual mine production with December production calculated from reports by mine operators, refineries (including the Denver Mint), and smelters of anticipated shipments and receipts.

Production in 1944 was 111,455 fine ounces of gold, 2,248,830 fine ounces of silver, 2,096,000 pounds of copper, 35,396,000 pounds of lead, and 79,910,000 pounds of zinc. These figures indicate decreases in 1945 of 11,644 ounces of gold (10 percent), 70,155 ounces of silver (3 percent), 2,740,000 pounds of lead (8 percent), and 7,640,000 pounds of zinc (10 percent). The production of copper increased 666,000 pounds (32 percent) over 1944.

At average prices used by the Bureau of Mines, as shown below, the calculated gross value of the output of these metals in 1945 was: Gold $3,493,385, silver $1,549,280, copper $375,632, lead $2,808,416, and zinc $8,311,050--a total value of $16,537,763. In 1944 the total value was $17,724,473, indicating a decrease from 1944 of $1,186,710 (7 percent). The price of gold fixed by the United States Government remained at $35 per ounce throughout 1945, and the price of domestic-mined silver was $0.711+. The average weighted yearly price per pound was $0.136 for copper, $0.086 for lead, and $0.115 for zinc in 1945 as compared with $0,135 for copper, $0.080 for lead, and $0.114 for zinc in 1944, The above prices include the bonus payments by Metals Reserve Company for over-quota production.

The Idarado Mining Co. continued the successful development of its Black Bear property in San Miguel County through the Treasury Tunnel in Ouray County. In January the company placed in operation its new 300-ton selective-flotation mill, which is located in Ouray County near the portal of the Treasury Tunnel. The American Smelting & Refining Co. through its purchase and remodeling of the mills of the California Gulch Mining & Milling Co. at Leadville made available additional custom reduction facilities to mines in Lake and adjacent counties. Due to lack of funds work was stopped in the Leadville Drainage Tunnel September 1, 1945. The

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tunnel had been driven a total of 6,600 feet. The Bureau of Mines keeps a small maintenance crew at the tunnel. Shippers of complex ores were notified by the Golden Cycle Corp. that after December 1, 1945, shipments would no longer be accepted, due to strike conditions at Eastern zinc smelters.

The greatest deterrent to a larger output of base metals from Colorado mines was the critical shortage of labor; however, mine operators reported that men began to move back to the mining districts during the latter part of the year. In June Congress passed legislation permitting the continuation of the premium price plan for copper, lead, and zinc until June 30, 1946. The plan was extended on about the same conditions as heretofore and included the non-cancellation requirement, meaning that all classes of premiums shall be non-concellable unless necessary in order to make individual adjustments of income to specific mines. On June 16 the War Production Board announced revocation of its order L-208 effective July 1, 1945.

Adams County.--The output of gold and silver from Adams County was recovered as a byproduct from the gravel-washing plants of the Brannon Sand & Gravel Co. and the Superior Sand & Gravel Co. near Denver.

Boulder County.--The gross value of metal production from Boulder County in 1945 was slightly lower than in 1944 and the lowest for any year since 1931. The output of gold and zinc decreased; whereas the output of silver, lead, and copper increased. Ore and concentrates were shipped to the American Smelting & Refining Co. smelter at Leadville, the Golden Cycle mill at Colorado Springs, and to smelters in Utah. About 15 mines were active during 1945; among the largest producers were the Gardner mine in the Gold Hill district (zinc-lead ore), H. M. Williamson & Son in the Central or Jamestown district (lead ore and concentrates byproduct from fluorspar mining), and the Poorman mine (gold ore) and Alpine Horn mine (gold ore) in the Sugar Loaf district. Most of the lead recovered from mines in Boulder came from the operations of H. M. Williamson & Son and the Gardner mine, and virtually all the zinc from the Gardner mine. Toward the end of the year shipments of gold ore were increasing substantially.

Chaffee County.--Virtually the entire metal production from Chaffee County in 1945 was derived from the zinc ore from the Garfield mine. S. E. Burleson operated the Garfield mine and made shipments of zinc ore containing gold, silver, copper, and lead to the Golden Cycle mill; shipments began in June and were continued until December.

Clear Creek County.--The output of gold, lead, and zinc from mines in Clear Creek County in 1945 increased considerably and the total value of metal production increased 30 percent. There were about 27 mines active in the county during the year compared with 22 during 1944. Crude ore and concentrates were shipped to the Golden Cycle mill and the smelter at Leadville, the International Smelting & Refining Co. and United States Smelting, Refining & Mining Co. plants in Utah, and the American Smelting & Refining Co. zinc smelter at Amarillo, Tex. The largest shipments during the year came from the Utze Lode Co. property (Mendota & Frostburg) and the Smuggler mine in the Griffith district; the National, Sussex, and Newcastle claims in the Argentine district; the East Lake mines and Argo-Idaho Bride in the Idaho Springs district; the Ben Harrison mine in the Trail Creek district; and the Jo Reynolds mine in the Montana district. The Utze Lode Co. operated its property throughout the year and treated the ore at the Silver Spruce mill, making lead concentrates which were shipped to the Leadville smelter and bulk zinc-lead concentrates which were shipped to the Midvale (Utah) concentrator. O. Barlow Wilmarth operated the National-Sussex-Newcastle group during 1945 and

Mine production of gold, silver, copper, lead, and zinc in Colorado in 1945[1] by counties, in terms of recovered or recoverable metals

County	Gold[2]		Silver[3]		Copper	
	Fine ounces	Value	Fine ounces	Value	Pounds	Value
Adams..........	328	$11,480	55	$39	----	----
Boulder........	560	19,600	9,187	6,533	11,000	$1,496
Chaffee........	36	1,260	11,655	8,288	62,000	8,432
Clear Creek....	893	31,255	104,196	74,095	29,000	3,944
Costilla.......	2	70	----	----	----	----
Custer.........	97	3,395	19,056	13,551	5,000	680
Dolores........	163	5,705	159,608	113,499	174,000	23,664
Eagle..........	116	4,060	49,033	34,868	20,000	2,720
Fremont........	100	3,500	6,203	4,411	54,000	7,344
Gilpin.........	280	9,800	3,683	2,619	5,000	680
Gunnison.......	57	1,995	27,187	19,333	20,000	2,720
Hinsdale.......	----	----	----	----	----	----
Jefferson......	55	1,925	14	10	----	----
Lake...........	13,845	484,575	425,039	302,250	261,000	35,496
LaPlata........	4	140	----	----	----	----
Mineral........	169	5,915	374,611	266,390	67,500	9,180
Montrose.......	31	1,085	11,046	7,855	363,000	49,368
Ouray..........	2,892	101,220	172,831	122,902	175,000	23,800
Park...........	7,804	273,140	13,600	9,671	42,000	5,712
Pitkin.........	4	140	77,933	55,419	500	68
Rio Grande.....	374	13,090	578	411	2,000	272
Routt..........	4	140	751	534	4,000	544
Saguache.......	71	2,485	39,503	28,091	50,000	6,800
San Juan.......	22,569	789,915	301,791	214,607	421,000	57,256
San Miguel.....	18,058	632,030	271,056	192,751	956,000	130,016
Summit.........	2,730	95,550	94,351	67,094	40,000	5,440
Teller.........	28,569	999,915	5,708	4,059	----	----
Total: 1945..	99,811	3,493,385	2,178,675	1,549,280	2,762,000	375,632
1944..	111,455	3,900,925	2,248,830	1,599,168	2,096,000	282,960
Increase or decrease, 1945..	- 11,644	-407,540	-70,155	-49,888	+666,000	+92,672

[1] Actual 11 months with close calculations for December.

[2] Includes placer production as follows: 1945, 6,271 ounces ($219,485); 1944, 343 ounces ($12,005).

[3] Includes placer production as follows: 1945, 1,108 ounces ($788); 1944, 90 ounces ($64).

Mine production of gold, silver, copper, lead, and zinc in Colorado in 1945, by counties, in terms of recovered or recoverable metals -- Continued

County	Lead		Zinc		Total value 1945[4]	Total value 1944[5]
	Pounds	Value	Pounds	Value		
Adams	----	----	----	----	$11,519	$4,442
Boulder	187,000	$16,082	20,000	$2,300	46,011	49,455
Chaffee	56,000	4,816	258,000	29,670	52,466	65,793
Clear Creek ..	1,678,000	144,308	1,227,000	141,105	394,707	303,384
Costilla	----	----	----	----	70	----
Custer	421,000	36,206	294,000	33,810	87,642	59,572
Dolores	4,745,000	408,070	7,960,000	915,400	1,466,338	1,614,773
Eagle	1,052,000	90,472	31,686,000	3,643,890	3,776,010	5,028,936
Fremont	88,000	7,568	753,000	86,595	109,418	111,698
Gilpin	123,000	10,578	129,000	14,835	38,512	66,885
Gunnison	915,000	78,690	883,000	101,545	204,283	191,336
Hinsdale	----	----	----	----	----	13,444
Jefferson	----	----	----	----	1,935	211
Lake	9,406,000	808,916	15,647,000	1,799,405	3,430,642	3,846,686
La Plata	1,000	86	----	----	226	5,781
Mineral	510,000	43,860	9,000	1,035	326,380	472,405
Montrose	----	----	----	----	58,308	72,975
Ouray	1,960,000	168,560	1,720,000	197,800	614,282	513,752
Park	137,000	11,782	801,000	92,115	392,420	239,845
Pitkin	312,000	26,832	204,000	23,460	105,919	167,430
Rio Grande ...	----	----	----	----	13,773	78,340
Routt	15,000	1,290	105,000	12,075	14,583	20,989
Saguache	557,000	47,902	818,000	94,070	179,348	134,831
San Juan	4,835,000	415,810	1,621,000	186,415	1,664,003	1,721,925
San Miguel ...	3,852,000	331,272	2,739,000	314,985	1,601,054	1,207,550
Summit	1,806,000	155,316	5,396,000	620,540	943,940	647,746
Teller	----	----	----	----	1,003,974	1,084,289
Total: 1945...	32,656,000	2,808,416	72,270,000	8,311,050	16,537,763	-------
1944...	35,396,000	2,831,680	79,910,000	9,109,740	-------	17,724,473
Increase or decrease, 1945.	-2,740,000	-23,264	-7,640,000	-798,690	-1,186,710	-------

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[4] Average value of metals in 1945: Gold, $35 per fine ounce; silver, $0.711+ per fine ounce; copper, $0.136 per pound; lead, $0.086 per pound; zinc, $0.115 per pound.

[5] Average value of metals in 1944: Gold, $35 per fine ounce; silver, $0.711+ per fine ounce; copper, $0.135 per pound; lead, $0.080 per pound; zinc, $0.114 per pound.

shipped lead concentrates and zinc-lead ore to the Midvale (Utah) smelter and concentrator. Herbert A. Strasser operated the Idaho Bride property during the year and shipped zinc-lead material to the Tooele (Utah) smelter. The Harrison Croesus Mining Co. operated the Ben Harrison mine; the East Lake Mines, Inc., operated the East Lake property; and a lessee operated the Jo Reynolds property--all shipped crude ore to the Golden Cycle mill. The Mile High Mining Co, operated the Smuggler group of mines and the Silver Leaf mill throughout the year shipping zinc concentrates to Amarillo (Tex.) and lead concentrates to Leadville.

Custer County.--The total value of the mineral production in 1945 from Custer County showed an increase of 47 percent over 1944. The Lady Franklin mine near Westcliffe operated throughout the year by George L. Beardsley was again the largest producer of gold, silver, and zinc. The crude ore which also contained some lead was treated at the Golden Cycle mill. The Keystone, Defender, and Bull Domingo mines, all in the Hardscrabble district, produced a considerable quantity of lead and zinc-lead ore. Ore from the Keystone mine, operated by Colgate & Hoge, lessees, and ore from the Bull Domingo mine, operated by the Jump Mining & Milling Co., was shipped to the Golden Cycle mill; ore from the defender mine was shipped to the Leadville smelter by a lessee. There were seven mines active in the county in 1945.

Dolores County.--The gross value of metal output from Dolores County decreased $148,435 in 1945. The Rico Argentine Mining Co., by far the largest producer in the county and one of the major zinc, lead, and silver producers in Colorado in 1945, operated its group of mines and 135-ton selective-flotation mill continuously in 1945 and shipped lead concentrates to the Leadville and zinc concentrates to the Amarillo (Tex.) smelter. Markey Bros. operated the Yellow Jacket group under lease from the Rico Argentine Mining Co. and shipped crude zinc-lead ore to the Midvale (Utah) concentrator.

Eagle County.--The output of zinc in Eagle County decreased 23 percent in 1945 but the county still retained its rank as first among Colorado counties in the production of zinc and in total value of the five metals. The county produced about 43 percent of the total zinc output of Colorado in 1945. The New Jersey Zinc Co. Empire Zinc Division operated its Eagle mine and 600-ton underground flotation mill continuously in 1945. Zinc concentrates were shipped to the company smelters at Depue, Ill., and Palmerton, Pa., and lead concentrates to the Leadville smelter. In addition, the company shipped some crude gold-copper-silver-iron ore to the Garfield (Utah) smelter.

El Paso County.--The Golden Cycle mill at Colorado Springs operated throughout the year on company ore and custom ore came from nearly all mining districts in the State; about 216,000 tons of ore of all classes were treated (221,543 tons in 1944) which included about 117,000 tons of company and custom gold-silver ores principally from the Cripple Creek district and about 99,000 tons of complex zinc-lead ores and middlings from Boulder, Chaffee, Clear Creek, Custer, Fremont, Gilpin, Gunnison, Lake, Park, Pitkin, Saguache, San Juan, San Miguel, and Summit Counties. The complex ores and middlings were first treated in the company 500-ton selective-flotation unit, making a lead and zinc concentrate; the tailings resulting from this operation were then treated for further recovery of gold and silver by cyanidation.

The Golden Cycle mill notified all shippers of complex ores that after December 1, 1945, no further shipments would be accepted, due to the strike conditions at the zinc smelters receiving Golden Cycle zinc concentrates. Ores in transit on December 1 would, however, be accepted.

Fremont County.--The gross value of metal output from Fremont County in 1945 was slightly lower than in 1944. The bulk of the metal output in Fremont County in 1945 came from the Cotopaxi mine in the Cotopaxi district, operated by the Monarch Galena Co., and the Horseshoe mine in the Grape Creek district operated by the Christison & Van Buskirk Mining Co. Ore from both operations was shipped to the Golden Cycle mill at Colorado Springs for treatment.

Gilpin County.--The gross value of mineral production from Gilpin County in 1945 decreased 42 percent from 1944. The bulk of the county output came from the Boodle Lease on the Boodle claim and the Meeker-Success mine and Ivanhoe dump. The ore from the Meeker-Success mine and Ivanhoe dump was treated in the Meeker-Success mill; the products were shipped to the Tooele (Utah) smelter. One from the Boodle Lease operation also was shipped to the Tooele smelter. Several other small operations shipped intermittently to the Golden Cycle mill and Leadville smelter.

Gunnison County.--The gross value of metal output from Gunnison County increased 7 percent in 1945. The Akron Unit of the Callahan Zinc-Lead Co., Inc., near Sargents continued to supply most of the county production. The company operated its property throughout the year and shipped zinc-lead ore to the Golden Cycle mill at Colorado Springs, the Leadville Milling Unit of the American Smelting & Refining Co., and the Midvale (Utah) concentrator. John Lambertson operated the Bull Domingo-Star group of mines in the Taylor Park district and shipped crude zinc-lead ore to the Midvale (Utah) concentrator.

Jefferson County.--Some placer gold was recovered in 1945 by sluicing gold-bearing gravels of Clear Creek.

Lake County.--The output of all metals in Lake County decreased in 1945 and the total value of the output fell 11 percent. The American Smelting & Refining Co. operated its Arkansas Valley lead bullion-leady copper matte smelter continuously in 1945 on ores and concentrates purchased from operators in virtually every mining district in the State. Material also was received from other smelters, mostly in the form of flue dusts and residues.

The Resurrection Mining Co. operated its Resurrection mine and 600-ton selective-flotation mill without interruption during 1945. In addition to handling Resurrection ore, the mill treated custom ore from shippers in Lake and Summit Counties. The lead concentrates produced were shipped to the Leadville smelter and the zinc concentrates to the Amarillo (Tex.) smelter.

About the middle of 1945 the American Smelting & Refining Co. purchased the gravity- and flotation-concentration and amalgamation mills of the California Gulch Mining & Milling Co.--one 75- to 125-ton capacity and one 450-ton capacity. The larger mill was remodeled to handle the company ore from the Lucky Strike mine near Kokomo, Summit County, and custom ore from various shippers. Operations at the mill started July 3 and continued the balance of 1945. Custom ore was received from operators in Clear Creek, Custer, Gunnison, Lake, Park, Pitkin, Saguache, San Juan, and Summit Counties.

The Ore & Chemical Co. increased the capacity of its Heavy-Media separation plant from 1,000 tons to about 1,400 tons (daily capacity) early in 1945. The company treated dump ores from several dumps in Leadville (principally the North Moyer, Tucson, and R. A. M.) until early December when the plant was shut down temporarily due to the refusal of the Golden Cycle mill to accept further shipments of zinc-lead bulk concentrates.

John Hamm Mining & Milling, Ltd., operated its 600-ton gravity-concentration mill the entire year on ores from the Maid of Erin and Wolftone dumps. The bulk concentrates were shipped for further treatment to the Golden Cycle mill and the American Smelting & Refining Co. Leadville Milling Unit during the first 11 months of 1945; during December the mill operated but the concentrates were stockpiled. Other principal mining operations in Lake County in 1945 shipping ore to the Leadville smelter, Tooele (Utah) smelter, American Smelting & Refining Co. Milling Unit, and the Resurrection mill included the Fortune mine, Little Johnny mine, American dump, F. P. Lilly & T. C. Moran Lease, Dolly B mine, New Monarch Lease, and the Edward Patterson Lease.

Tunneling operations on the new Leadville drainage tunnel were discontinued on September 1, 1945, after the tunnel had been driven a total of 6,600 feet. Late in 1945 it was reported that Steirs Bros. Mining Co., the contractor driving the tunnel, had removed all its equipment from the job.

La Plata County.—Metal production from La Plata County in 1945 was negligible.

Mineral County.—The total value of metal output from mines in Mineral County declined 31 percent in 1945. The Emperius Mining Co. maintained continuous operation of its 100-ton flotation mill during 1945 and treated ore from several mines in the Creede district owned or controlled by the company. Lead concentrates carrying high silver values were produced and shipped to the Leadville smelter; in addition, the company made one small shipment of zinc-lead bulk concentrates to the Tooele (Utah) smelter. The New Ridge Mining Co. operated its Ridge mine, making a small shipment of lead ore to the Leadville smelter.

Montrose County.—Virtually the entire metal production from Montrose County in 1945 came from the New Cashin mine, which was operated throughout the year. The highly siliceous copper-bearing rock was shipped to the Garfield (Utah) smelter.

Ouray County.—The gross value of the metal production from Ouray County increased 20 percent in 1945 owing to a greater output of all metals except gold. Virtually the entire output of ores and concentrates from the county were treated at smelters in Utah; gold bullion produced was shipped to the Denver Mint. The Camp Bird mine and 125-ton amalgamation-flotation mill were operated throughout the year by the King Lease, Inc. Concentrates containing considerable quantities of lead and zinc were shipped to the Tooele (Utah) lead smelter and slag-fuming plants for further reduction; gold amalgam was shipped to the Denver Mint. The General Ore Reduction Co. continued to run its custom mill in Ouray, treating ores from several properties in the county. Other principal producers in the county in 1945 included the Braden mine, the Bachelor Consolidated mine, the Genesee-Vanderbilt group, and the San Antonio group of mines.

Park County.—The total value of metal production from Park County increased 64 percent in 1945 owing principally to the resumption of gold dredging by the South Platte Dredging Co. on July 11 after three years of idleness. The company gold connected-bucket dredge was operated on placer gravels near Fairplay. During the period of shut-down the company acquired additional dredging ground and now controls approximately 4,000 acres. The Buckskin Joe Mines, Ltd., operated its Phillips group of mines in Buckskin Gulch and the Alma-Betts 65-ton selective-flotation mill in Mosquito Gulch during all of 1945 and accounted for almost all of the remaining output of the county. Among other mines producing in the county during 1945 were the Baxter mine, London mine, and the Great Western dump. The material derived from these operations was shipped to the Leadville smelter and the Golden Cycle mill.

Pitkin County.--The gross value of metal production from mines in Pitkin County decreased 37 percent in 1945 as the output of all metals fell. The Midnight Mining Co., operating its Midnight mine and 50-ton selective-flotation mill, was the largest producer in the county. The silver-lead-zinc ore treated in 1945 made lead concentrates which were shipped to Leadville and zinc concentrates which were shipped to the Amarillo (Tex.) smelter. Herron Bros. operated the Smuggler mine and shipped crude lead ore to the Leadville smelter and crude zinc-lead ore to the Golden Cycle mill and Leadville Milling Unit at Leadville. Jessen Bros. operated the Aspen Contact mine and shipped zinc-lead ore to the Tooele (Utah) smelter.

Rio Grande County.--The gross value of metal output from Rio Grande County fell from $78,340 in 1944 to $13,773 in 1945. The Gold Links Mining Co. operated the Little Annie group of mines and its 50-ton amalgamation-flotation mill until mid-year when all operations ceased. The company shipped gold bullion to the Denver Mint and concentrates to the Leadville and Garfield (Utah) smelters.

Routt County.--Milbank Franz worked the Greenville mine in the Hahns Peak area and shipped zinc-lead milling ore to the Midvale (Utah) concentrator.

Saguache County.--Metal output from mines in Saguache County increased 33 percent in 1945. The bulk of the output of the county was shipped to reduction plants in Utah. The Conejos Mining Co. was the largest producer in the county and shipped crude zinc-lead ore to the Midvale (Utah) concentrator and the Leadville Milling Unit of the American Smelting & Refining Co. Among other important producers were the St. Louis mine, operated by the Pratt-Bonanza Mining & Milling Co., which shipped crude zinc-lead ore to the Bauer mill of the Combined Metals Reduction Co. in Utah; the Bonanza dump, operated by Brugger & Keserich; the Erie mine, operated by Lester Pickering; and the Cora, operated by the Nevada Mines Co.

San Juan County.--The output of all metals from San Juan County, except gold, increased in 1945; gold, however, decreased 5,954 ounces resulting in a lowering of the total value of metal output 3 percent. The Shenandoah-Dives mine was again the chief producer in the county. The company 700-ton selective-flotation mill near Silverton was operated all of 1945 and treated both company and custom ore. The lead concentrates made were shipped to the Leadville smelter and the zinc concentrates to the Amarillo (Tex.) smelter. Custom ore was received during the year from the Bandora, Kittimac, Lead Carbonate, and Mountain Queen mines. The Denver Equipment Co. operated the 100-ton Pride of the West selective-flotation mill at Howardsville continuously on company ore from the Pride of the West group. The Highland Mary Mines, Inc., operated its group of mines and 100-ton flotation mill in Cunningham Gulch during the last half of 1945. The lead concentrates produced were shipped to the Leadville smelter. Other mines active in 1945 included the Columbus and Lark, both of which shipped crude ore to the Golden Cycle mill; the Lark also shipped ore to the Leadville Milling Unit during 1945.

San Miguel County.--The production of all metals in San Miguel County increased in 1945; the total gross value of these metals rose 33 percent. The production from the Idarado Mining Co. was credited to San Miguel County. The company continued to develop its Black Bear property through the Treasury Tunnel during 1945. The 300-ton selective-flotation mill built during 1944 at the portal of the Treasury Tunnel in Ouray County was operated during 1945 and treated ore from the Black Bear mine. Three concentrates--lead, zinc, and copper--were made, which were shipped to the Leadville, Amarillo (Tex.), and Garfield (Utah) smelters, respectively. The addition of more mill capacity is anticipated. The Telluride Mines, Inc., operated the Smuggler Union, Montana, and Cimarron mines throughout 1945, treating the ore in the company 550-ton amalgamation-flotation mill located at Pandora. The lead concentrates were shipped to the Midvale (Utah) smelter and the zinc concentrates to the Anaconda zinc smelter at Anaconda, Mont.; the gold amalgam was shipped to the Denver Mint. Alta Mines, Inc., continued full-year operation of its 100-ton flotation mill and Alta-St. Louis mine. Lead-copper concentrates produced were shipped to the Leadville smelter.

Summit County.--The total value of metals produced from Summit County mines increased 46 percent in 1945. The Kokomo Unit of the American Smelting & Refining Co. largest producer in the county operated its Lucky Strike group of mines near Kokomo and, until May, shipped ore to the Resurrection mill at Leadville. In April the American Smelting & Refining Co. purchased the California Gulch Mining & Milling Co. mills at Leadville, remodeled the larger mill, and began shipping the Kokomo Unit ore to the new mill (known as the Leadville Milling Unit of the American Smelting & Refining Co.). The Wilfley Mining & Development Co. operated its Wilfley mine throughout 1945. The ore was shipped to the Resurrection and Leadville Milling Unit concentrators at Leadville. The Garvie London Gold Mining Co. worked its Country Boy mine near Breckenridge all year and shipped crude ore to the Resurrection mill. The Golden Cycle Corp. operated its Monte Christo property during 1945. Shipments began in August and continued through November. Other mines active during 1945 included the Superior, Florado, Erickson, New York, Kimberly, and Ida Bell mines and Wellington and Wilson dumps.

Teller County.--Mines in the Cripple Creek district in 1945 were still the major source of gold in Colorado, although the output was the smallest since 1892 (the district was discovered in 1891). All the ore from the district was shipped to the 1,500-ton Golden Cycle cyanidation-amalgamation mill at Colorado Springs. The bulk of the district output was recovered from the Ajax and Vindicator mines operated by the Golden Cycle Corp., the Portland mine operated by the United Gold Mines Co., the Stratton Estate group of mines operated by lessees, and the Le Clair mine operated chiefly by the Greenwood Leasing Co. The Vindicator mine was closed in the middle of 1945 due to failure of the hoisting equipment. Many operators of former producing properties have made preparations to resume operations in 1946.

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MINERAL MARKET REPORT
MMS NO. 1369

METAL MINING IN NEW MEXICO, 1945 – PRELIMINARY ANNUAL FIGURES

Mines in New Mexico yielded (in terms of recoverable metals) 5,111 fine ounces of gold, 481,251 ounces of silver, 113,100,000 pounds of copper, 14,200,000 pounds of lead, and 77,900,000 pounds of zinc in 1945, according to the Denver office of the Bureau of Mines, United States Department of the Interior. These preliminary figures are based on 10 months actual mine production with November and December production calculated from reports by mine operators, refineries (including the various United States Mints), and smelters of anticipated shipments and receipts.

Production in 1944 was 6,918 fine ounces of gold, 535,275 ounces of silver, 139,460,000 pounds of copper, 14,530,000 pounds of lead, and 101,454,000 pounds of zinc. These figures indicate decreases in 1945 of 1,807 ounces of gold (26 percent), 54,024 ounces of silver (10 percent), 26,360,000 pounds of copper (19 percent), 330,000 pounds of lead (2 percent), and 23,554,000 pounds of zinc (23 percent).

The total gross value of gold, silver, copper, lead, and zinc produced in 1945, calculated at the average prices shown below, was $26,082,408, compared with $32.178,026 in 1944, and included gold valued at $178,885, silver $342,223, copper $15,381,600, lead $1,221,200, and zinc $8,958,500. Of the 1944 total value, $242,130 was in gold, $380,640 in silver, $18,827,100 in copper, $1,162,400 in lead, and $11,565,756 in zinc. The price of gold fixed by the United States Government remained at $35 a fine ounce, and the price of domestic-mined silver remained at $0.711+. The average weighted yearly price per pound, which includes bonus payments for over-quota production, for copper advanced from $0.135 in 1944 to $0.136 in 1945, lead from $0.080 to $0.086, and zinc from $0.114 to $0.115.

The disruptive conditions brought about by the Nation's fourth year at war continued to harass the metal mining industry in New Mexico during 1945. The greatest single factor affecting the industry's production continued to be the chronic shortage of labor. The industry faced probably its most critical shortage during the first part of the year, but toward the end of 1945 the shortage was somewhat alleviated at some operations. The Government again attempted in the early part of 1945 to give assistance in securing mine labor to various operators through the use of labor priorities. The plan had a limited success. Absenteeism continued to plague the industry, however some improvement was noted toward the close of the year.

Prepared by George E. Woodward and S. A. Gustavson, Denver Office, Metal Economics Division, Economics and Statistics Branch.

In June Congress passed legislation to permit the continuation of the premium-price plan for copper, lead, and zinc until June 30, 1946. The plan was extended on about the same basis as heretofore and included the non-cancellation requirement, meaning that all classes of premiums shall be non-cancellable unless necessary in order to make individual adjustments of income to specific mines; quotas continued to be subject to revision. On June 16 the War Production Board announced that resumption of gold mining would be permitted through revocation of Order L-208, effective July 1, 1945. The rescinding of this order did not affect materially the gold output from New Mexico.

Grant County.--The Chino Mines Division of the Kennecott Copper Corp. operate its open-pit mine at Santa Rita in the Central district and its flotation mill and reverberatory copper smelter at Hurley throughout 1945. The Kennecott Copper Corp. continued to develop its Oswaldo zinc-lead properties, making some shipments of ore to the Empire Zinc Co. mill at Hanover. The bulk of the remaining copper production for the county came from the leaching operations of the Phelps Dodge Corp. at its Burro Mountain property in the Burro Mountain district. Copper produced at the Hurley smelter was marketed as fire-refined copper bars.

The United States Smelting, Refining & Mining Co., operating the Bullfrog mine in the Central district, was the most important producer of zinc and lead in the State. An increase in the lead content of the ore helped substantially to increase the 1945 output of lead from this property, offsetting decreased production from other New Mexico mines.

The Peru Mining Co. operated its Pewabic, Copper Flat, and Kearny mines in the Central district, and treated the zinc-lead ore at the company 1,000-ton selective-flotation mill at Wemple near Deming (Luna County). Custom ore from the Phelps Dodge Corp. Copper Queen mine (Ariz.) was accepted at the mill beginning in May 1945.

The Empire Zinc Co. operated its Hanover mine group and selective-flotation mill throughout the year. Custom ore was received also by the company from the Kennecott Copper Corp. Oswaldo mine in the Central district, Grant County, and the Lynchburg mine, operated by Kenneth Hughes and J. D. Torres (Socorro County).

The American Smelting & Refining Co. operated its Ground Hog Unit in the Central district and the leased Hanover Milling Unit (formerly Combination-Black Hawk mill) continuously during 1945; custom ore continued to provide over 50 percent of the tonnage at the mill. The American Smelting & Refining Co. also shipped direct smelting ore from the Denver claim in the Central district to the El Paso smelter. Lessees operated a portion of the claim.

The Black Hawk Consolidated Mines Co. operating the Hobo mine and the New Mexico Ore Processing Co. operating the Peerless, both in the Central district, Douglas B. White operating the Cleveland mine in the Pinos Altos district, and the Black Range Development Co. operating the Grandview, Columbia, Patsy, and Royal John mines in the Swartz district, all shipped substantial quantities of zinc-lead ore to the American Smelting & Refining Co. Hanover Milling Unit. The Black Range Development Co. suspended operations March 31, 1945, and the New Mexico Ore Processing Co. suspended operations about November 1, 1945.

Catron County.—The Silver Creek Mining Co. operated its Bearup mine throughout 1945, making regular shipments of gold-silver ore to the lead smelter of the American Smelting & Refining Co. at El Paso.

Guadalupe County.—The Guadalupe Mining Co. shipped siliceous copper ore to the El Paso copper swelter from its Stauber mine during January and February 1945 after which the mine was shut down.

Hidalgo County.—Production from the Bonney mine of the Banner Mining Co. in the Lordsburg district was considerably less in 1945 than in 1944 although the company operated its property and 500-ton flotation mill throughout the year. Regular shipments of copper ore were made from the Atwood mine in the Lordsburg district to the El Paso smelter. Some lead ore was shipped to the El Paso lead smelter during the first four months of 1945 from the Tom group in the Lordsburg district. In the San Simon (Steins) district shipments of lead ore from the Crosby mine were made to the El Paso lead smelter until May 1945. Small quantities of ore from other mines and prospects in Hidalgo County were shipped to smelters in 1945.

Luna County.—The Peru Mining Co. operated its 1,000-ton flotation mill throughout 1945 treating zinc ore from its Pewabic, Copper Flat, and Kearny mines near Hanover in Grant County; during May the company began accepting zinc-lead ore from the Copper Queen mine of the Phelps Dodge Corp. near Bisbee, Ariz., on a custom basis. Receipts of this ore increased during the year and by December were estimated to constitute over one-half of the ore milled.

Sandoval County.—A small lot of copper ore from the San Miguel mine was shipped to the El Paso copper plant in 1945.

Santa Fe County.—During the year zinc-lead ore from the Tom Payne and the Pennsylvania mines was shipped to the Hanover Unit custom mill of the American Smelting & Refining Co. at Hanover, Grant County.

Sierra County.—Small shipments of lead ore were made from mines in Sierra County in 1945.

Socorro County.—The American Smelting & Refining Co. operated the Waldo mine and its 200-ton flotation mill throughout 1945. The production in 1945 was less than in 1944. Kenneth Hughes and J. D. Torres shipped zinc-lead ore to the Empire Zinc Co. milling unit at Hanover, Grant County, from the Lynchburg mine; shipments ceased in August 1945. Zinc-lead ore was shipped from the Nitt property to the Hanover custom milling unit of the American Smelting & Refining Co. Some lead ore was shipped to the El Paso smelter from the White Star mine in 1945.

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MINERAL MARKET REPORT
MMS NO. 1370

METAL MINING IN TEXAS, 1945 - PRELIMINARY ANNUAL FIGURES

Mines in Texas yielded (in terms of recoverable metals) 21,330 fine ounces of silver and 80,000 pounds of copper in 1945, according to the Denver office of the Bureau of Mines, United States Department of the Interior. These preliminary figures are based on 10 months' actual mine production with November and December calculated from anticipated receipts at smelters.

Production in 1944 was 5,355 fine ounces of silver and 230,000 pounds of copper. These figures indicate an increase of 15,975 ounces of silver and a decrease of 150,000 pounds of copper. No gold, lead, or zinc was recovered from ores mined in Texas in 1944 or 1945.

At the average prices used by the Bureau of Mines, as shown below, the calculated gross value of the output of these metals in 1945 was silver $15,168 and copper $10,880, a total of $26,048. In 1944 the total value was $34,858, of which $3,808 was in silver and $31,050 was in copper. The price of gold, fixed by the United States Government, remained at $35 per fine ounce throughout 1945 and the price of domestic-mined silver was $0.711+. The average weighted yearly price per pound including bonus payments by the Metals Reserve Co. for over-quota production of copper advanced from $0.135 to $0.136, lead from $0.080 to $0.086, and zinc from $0.114 to $0.115.

All producing metal mines in the State in 1945 were located in Culberson and Hudspeth Counties. The Hazel mine, 14 miles northwest of Van Horn, Culberson County, operated from March through June and shipped copper-silver ore to the El Paso copper smelter. Three mines were active in Hudspeth County in 1945; Black Shaft mine northwest of Allamoore, Sancho Panza mines northwest of Allamoore, and the Hackberry mine near Allamoore. All operated intermittently during the year and shipped copper-silver ore to the smelter at El Paso.

In 1945, two horizontal-retort zinc smelters and one electrolytic zinc smelter, one copper smelter, and one lead smelter were in operation in Texas. The American Smelting & Refining Co. continued to operate its copper and lead smelters in El Paso in 1945, treating concentrates and ores purchased for the greatest part from operators in Arizona, New Mexico, and Texas, and foreign ores and concentrates purchased from operators in Canada, Mexico, Argentina, Australia, and Newfoundland. The American Smelting & Refining Co.'s gas-fired horizontal-retort zinc smelter at Amarillo was operated throughout the year on zinc concentrates purchased mostly from operators in Arizona, Colorado, and New Mexico. Continued shortage of skilled

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Prepared by George E. Woodward and S. A. Gustavson, Denver Office, Metal Economicx Division, Economics and Statistics Branch.

labor at the smelter forced the company to operate at less than capacity. The company's electrolytic zinc plant at Corpus Christi operated throughout the year, mostly on concentrates received from foreign mines although producers in Arizona and near Hanover, New Mexico furnished some tonnage.

The gas-fired horizontal-retort zinc smelter of the American Zinc Lead and Smelting Co. at Dumas was operated throughout the year but at much less than full capacity owing to acute shortage of skilled smelter workers. Concentrates were purchased from operators in Colorado, Idaho, and New Mexico.

The Phelps Dodge Corporation Nichols electric refinery at El Paso continued to treat blister copper anodes cast at the corporation smelters in Arizona.

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MINERAL MARKET REPORT
MMS NO. 1371

METAL MINING IN WYOMING, 1945 - PRELIMINARY ANNUAL FIGURES

Mines in Wyoming yielded (in terms of recoverable metals) 2 ounces of fine gold, 31 ounces of silver, and 6,000 pounds of lead in 1945, according to the Denver office, Bureau of Mines, United States Department of the Interior. Production in 1944 was 20 ounces of gold and 3 ounces of silver.

At average prices used by Bureau of Mines, as shown below, the gross value of the output of these metals in 1945 was: Gold $70, silver $22, and lead $516 — a total of $608. In 1944 the total value was $702 and included $700 in gold and $2 in silver.

The value of gold in 1945 remained fixed by the United States Government at $35 per fine ounce and silver (mined domestically) at $0.711+. Lead advanced from $0.080 to $0.086 per pound. The price used in calculating the value of lead produced in 1945 is the weighted yearly average price and includes bonus payments by the Metals Reserve Co. for over-quota production.

Metal mines in Wyoming in 1945 shipped two small lots of ore to Utah smelters.

Prepared by George E. Woodward and S. A. Gustavson, Denver Office, Metal Economics Division, Economics and Statistics Branch.

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MINERAL MARKET REPORTS
MMS NO. 1372

METAL MINING IN SOUTH DAKOTA, 1945 - PRELIMINARY ANNUAL FIGURES

Gold production in South Dakota in 1945 increased 246 percent compared with 1944 largely as a result of recision of War Production Board Order L-208, effective July 1, 1945, according to the Denver Office of the Bureau of Mines, United States Department of the Interior. Mines in South Dakota yielded in 1945 (in terms of recoverable metals) 40,253 fine ounces of gold, 20,205 fine ounces of silver, and no copper, lead, or zinc. These figures are based on 11 months' actual mine production with December production calculated from reports by mine operators, refineries, and smelters of anticipated shipments and receipts. Production in 1944 was 11,621 fine ounces of gold, 5,445 fine ounces of silver, 2,000 pounds of copper, 68,000 pounds of lead, and 112,000 pounds of zinc.

At the average prices used by the Bureau of Mines, as shown below, the calculated gross value of the output of these metals in 1945 was: Gold $1,408,855 and silver $14,368—a total of $1,423,223. In 1944 the total value was $429,085, indicating an increase from 1944 of $994,138 (232 percent) in the total value of metal output. The price of gold fixed by the United States Government remained at $35 per ounce throughout 1945 and the price of domestic-mined silver was $0.711+. The average weighted yearly price per pound, including bonus payments by the Metals Reserve Company for over-quota production, was $0.136 for copper, $0.086 for lead, and $0.115 for zinc in 1945.

During the first half of 1945 gold production in South Dakota was limited to that recovered from mill clean-up by the Homestake Mining Co. The company resumed mining operations on July 2 following the War Production Board rescinding, effective July 1, 1945, of its gold-mine closing order, L-208. The company was one of the few in the United States able to take immediate advantage of the lifting of the ban on gold mining. The labor supply at Lead, S. Dak., was adequate to start operations and the company expects to reach near-normal operations in 1946. The only other gold-mining operation from which shipments were made in 1945 was the Bald Mountain Mining Co. at Trojan, Lawrence County. The company resumed operation of its group of mines and 350-ton all-sliming countercurrent-cyanidation plant the latter part of the year at about 50 percent capacity. The company 110-ton gas-fired rotary hearth furnace was not placed in operation as only "oxide ores" were mined; no mining of the "blue ores" was done in 1945. The Belle Eldridge Gold Mines, Inc., the only producer in South Dakota in 1944, restricted its operation to the development of its property.

Prepared by George E. Woodward and S. A. Gustavson, Denver Office, Metal Economics Division, Economics and Statistics Branch.

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MINERAL MARKET REPORT
MMS NO. 1373

METAL MINING IN ALASKA, 1945 - PRELIMINARY ANNUAL FIGURES

The lifting of the ban on gold mining by the War Production Board with the rescinding of its Order L-208, effective July 1, 1945, came too late in the season to permit most Alaska gold mining operators to resume production in 1945, according to the Denver Office of the Bureau of Mines, United States Department of the Interior. However, Alaska lode and placer mines in 1945 yielded 68,588 fine ounces of gold, valued at $2,400,580 compared with 49,296 ounces valued at $1,725,360 in 1944 or a gain of 39 percent. Silver output in 1945 was 9,225 ounces, valued at $6,560, and lead output was 20,000 pounds, valued at $1,720; the 1945 total value for the three metals (in terms of recoverable metals) was $2,408,860 (a gain of $666,418) compared with $1,742,442 in 1944. These preliminary figures for 1945 are based on 10 months' actual mine production with November and December production calculated from reports by refineries and smelters of expected shipments and receipts. Comparable figures for 1944 were: 49,296 ounces of gold ($1,725,360), 13,362 ounces of silver ($9,502), 4,000 pounds of copper ($540), and 88,000 pounds of lead ($7,040).

The price of gold fixed by the United States Government remained at $35 per fine ounce for the years 1944 and 1945 and domestically-mined silver remained at $0.711+. The average weighted price per pound, including the bonus payments by the Metals Reserve Company for over-quota production, for copper rose from $0.135 in 1944 to $0.136 in 1945 and lead from $0.080 to $0.086.

A great number of the operators made extensive preparations in anticipation of full-season operations during 1946. Alaska gold production in 1945 was limited further by a scarcity of labor and supplies. The more important producers of gold in 1945 from lode mines were the Cleary Hill Mines, Inc., operating the Cleary Hill mine and amalgamation-flotation mill in the Fairbanks district; the Alaska-Pacific Consolidated Mining Co., operating its Independence and Free Gold Mines in the Willow Creek district; and the LeRoy Mining Co., operating the LeRoy mine in the Juneau district. The Alaska Juneau mine was inactive during the year although several clean-ups of the mill were made and the material was shipped to the Seattle Assay Office and the Selby (Calif.) smelter.

Among the more important producers of gold from placer operations were: The United States Smelting, Refining & Mining Co., which operated two dredges (non-concurrently) in the Fairbanks district; the Arctic Circle Exploration, Inc., operating a dredge on Candle Creek in the Fairhaven district; the New York Alaska Gold Dredging Co., operating one of its two dredges on Upper Tuluksak River in the Tuluksak-Aniak district; Gold Placers, Inc., operating a dredge on Coal Creek in the Circle district; and Uotila & Hard, operating a dragline dredge on a group of claims in the Innoko district.

Prepared by George E. Woodward and S. A. Gustavson, Denver Office, Metal Economics Division, Economics and Statistics Branch.

Considerable interest in the future possibilities of gold mining in Alaska was shown during 1945. Several companies, partnerships, and individuals, many of which have no previous experience in mining in Alaska, acquired property and started development and rehabilitation programs consistent with the available supply of labor and materials. Many of these programs were started before the Government lifted its ban on gold mining. Supplies and mining equipment began moving into the Territory as soon as transportation facilities were available. Considerable equipment in Alaska, owned by the Government, was sold to mining operators. From present indications, gold production in the Territory in 1946 should be several times that in 1945.

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MINERAL MARKET REPORT
NO. M.M.S 1374

METAL MINING IN CALIFORNIA, 1945 - PRELIMINARY ANNUAL FIGURES

Gold production in California in 1945 showed an increase for the first year since 1940, according to the San Francisco office of the Bureau of Mines, United States Department of the Interior. Preliminary figures show California gold production in 1945 as 172,100 fine ounces valued at $6,023,500 compared with 117,373 fine ounces valued at $4,108,055 in 1944. The 1945 output was 47 percent above that for 1944, but only 12 percent of the total for 1940, the recent peak year. Lead and zinc outputs were higher in 1945 than in 1944, but production of copper was only about half the 1944 output.

Mines in California yielded (in terms of recoverable metals) 172,100 fine ounces of gold, 949,200 fine ounces of silver, 13,810,000 pounds of copper, 12,940,000 pounds of lead, and 17,870,000 pounds of zinc. These preliminary figures are based on 10 months' mine production with November and December production estimated from reports of anticipated shipments and receipts by operators of mines, refineries and smelters.

The average prices used by the Bureau of Mines in calculating the gross values of the outputs of the metals were: Gold, $35.00 per fine ounce in 1944 and 1945; silver, $0.711+ per fine ounce in 1944 and 1945; copper, $0.135 a pound in 1944 and $0.136 in 1945; lead, $0.080 a pound in 1944 and $0.086 in 1945; and zinc, $0.114 a pound in 1944 and $0.115 in 1945. The total value of the five metals in 1945 was $11,744,537 compared with $10,933,495 in 1944, an increase of 7 percent owing almost entirely to the gain in gold output which more than offset the loss in production and value of copper.

A study of monthly gold output from California mines shows that production, which continued at a low level during 1943, 1944, and the first half of 1945, started to swing upward following the revocation of the War Production Board Order L-208 on July 1, 1945. However, the upward trend is sharp after the end of hostilities with Japan in August, 1945. By the end of 1945 labor was becoming more plentiful, and gold properties hitherto closed down or sharply curtailed were starting rehabilitation work or expanding output, the emphasis being on placer mines.

Prepared by Alfred L. Ransome, San Francisco Office Metal Economics Division, Economics and Statistics Branch.

Although complete data for classifying gold production are not available, it appears that placer mines contributed approximately 60 percent of the 1945 output and lode mines 40 percent, compared with a placer-lode ratio of 64 percent to 36 percent in 1944. The major part of the placer production in 1945 came from connected-bucket dredges, the number in operation having increased markedly by the end of 1945 owing to the lifting of the Order L-208.

The Yuba Consolidated Gold Fields which has a fleet of six dredges in the Yuba River district, Yuba County, operated four of them in the Yuba River district during 1945. The firm also operated one dredge in Butte County and in Siskiyou County. The Natomas Co. which has a fleet of seven dredges in the Folsom district, Sacramento County, operated five during 1945, three of which started after the lifting of Order L-208. The Gold Hill Dredging Co. operated two dredges on the Mokelumne River, Camanche district, San Joaquin County, and in August started operating one dredge in Butte County. Dredging was also carried on in 1945 by the Merced Dredging Co., Merced County, Capital Dredging Co., and the Lancha Plana Gold Dredging Co., Sacramento County, French Gulch Dredging Co., and Thurman Gold Dredging Co., Shasta County, Yuba Gold Dredging Co., Siskiyou County, the La Grange Gold Dredging Co., and the Tuolumne Gold Dredging Co., in Stanislaus County, and the Junction City Mining Co., in Trinity County. The Golden Feather Dredging Co. operated a dragline dredge in Placer County in 1945, having moved the equipment from the former location in Butte County in 1944. The Goldfield Consolidated Mines Co. carried on the State's only large hydraulic operation in 1945 at the Oak Hill mine, Junction City district, Trinity County. Gold was again produced by the Morris Ravine Mining Co. at its drift mine in the Oroville district, Butte County. Several gravel companies reported the recovery of gold as a byproduct of their operations, and small lot shipments of placer gold, many of which were handled by gold buyers, showed an increase in 1945.

Gold production at lode mines showed an increase in 1945 largely owing to expanded output at a few of the larger properties which were permitted limited operation by the War Production Board. Although many former producers have not yet reopened, a number are in process of rehabilitation. In 1944, lode gold derived from gold ores accounted for 75 percent of the total lode gold produced, and 24 percent was recovered from ore mined primarily for copper, lead, zinc, and other base metals. Preliminary figures indicate that in 1945 more than 80 percent of the lode gold came from gold ores. Approximately two-thirds of the gold from gold ore produced in California in 1945 was mined in the Grass Valley-Nevada City district, Nevada County, almost entirely by the Empire Star Mines Co., Ltd., and the Idaho Maryland Mines Corporation. In the Mother Lode Counties, the larger shipments of gold derived from gold ore were made by the Mount Gaines Mining Co., Hunter Valley district, Mariposa County, Eagle Shawmut Mine, Mother Lode district, Tuolumne County, and Schroeder, Odgers, and Schroeder, East Belt district, Mariposa County. The Original Sixteen to One Mine, Inc. began shipping bullion from the Original Sixteen to One mine, Alleghany district in August 1945 and continued throughout the remainder of the year. Smaller shipments were reported from an increasing number of other operations. Mines operated chiefly for base metal, that yielded more than 1,000 ounces of gold in 1945 included the Blue Moon mine, Hunter Valley district, Mariposa County, worked by the Red Cloud Mines, Inc., and the Penn mine, Campo Seco district, Calaveras County, worked by the Eagle Shawmut Mine.

California silver production in 1945 was 949,200 fine ounces valued at $674,987 compared with 778,936 ounces valued at $553,910 in 1944. Nearly one-half of the 1945 silver production was derived from argentiferous lead ores. The principal producers were the Anaconda Copper Mining Co. (Darwin Mines prior to August 1945), which operated a group of mines in the Darwin section of the Coso district, Inyo County, and the Finley Co. (Shoshone Division) which operated the Columbia No. 2 mine (operated by Shoshone Mines, Inc. prior to May 1945), Resting Springs district, Inyo County. Much of the remainder of California 1945 silver was produced from other base metal ores including copper-zinc, zinc, tungsten, lead-zinc, and copper ores.

The production of lead and zinc in California in 1945 continued to react favorably to the various Federal subsidies still being paid for these metals, but copper output dropped to almost one-half of the 1944 production owing to the closing down in 1945 of two of the State's largest producers, the Dakin mine and the Keystone mine. Copper output in 1945 was 13,810,000 pounds valued at $1,878,160 compared with 25,442,000 pounds valued at $3,434,670 in 1944. Lead production in 1945 was 12,940,000 pounds valued at $1,112,840 compared with 11,364,000 pounds valued at $909,120 in 1944. California zinc output in 1945 was 17,870,000 pounds valued at $2,055,050 compared with 16,910,000 valued at $1,927,740 in 1944; 1945 production was the largest in quantity since 1926 and the highest in value of any year. It should be noted that almost all of the important California producers of these three metals had qualified for one or more bonuses, so that the average prices and values for the State were actually substantially higher than the national averages at which all values have been computed.

A little more than one quarter of the State copper output was produced from the Dakin mine, Klamath River district, Siskiyou County, by the Gray Eagle Copper Co., an affiliate of the Newmont Mining Corporation up to the time of the closing down of the mine in June, 1945. The Mountain Copper Co., the second largest producer in the State in 1945 accounted for one quarter of the State's copper production. The company continued mining the Mattie zinc-copper orebody at the Hornet mine, Flat Creek (Iron Mountain) district, Shasta County, making shipments of copper and zinc concentrates. The Keystone Copper Corporation operated the Keystone mine, Copperopolis district, Calaveras County, but suspended activity in July, 1945 with the result that the lowered output for the year placed the Corporation into third place as a producer in 1945. During 1945, the Winston Copper Co. continued to operate the Newton copper mine, Ione district, Amador County which ranked fourth in copper output in California. The Pacific Mining Co. was also operating a flotation plant on the old tailings of the Union mine, Copperopolis district, Calaveras County. Additional quantities of copper concentrates were also recovered from copper-zinc ore mined by the Eagle Shawmut Mine at the Penn mine, Campo Seco district, Calaveras County, and by Hoefling Bros., Inc., at the Big Bend mine, Yankee Hill district, Butte County.

The Anaconda Copper Mining Co., operator of a group of mines in the Darwin section of the Coso district, Inyo County (operated by Darwin Mines prior to August, 1945) produced more than one-half of the lead output of California in 1945. Although a flotation lead concentrate was produced, most of the lead was recovered from direct smelting ore. The Finley Co. (successor to Shoshone Mines, Inc.), operator of the Columbia No. 2 mine, Resting Springs district, Inyo County was second in output with approximately 15 percent of the total lead production of the State. Smaller, but substantial quantities of lead were recovered by L. D. Foreman from operations in the Coso district, and by Dunton-Ray & Greenwood from the Mohawk mine, Clark Mountain district, San Bernardino County.

The largest producer of zinc in 1945 was the Red Cloud Mines, Inc., an operating subsidiary of the Hecla Mining Co. of the Coeur d'Alene district, Idaho, which worked the Blue Moon mine, Hunter Valley district, Mariposa County. The operation, which started shipping concentrates in January 1944, was relatively short lived as a cave-in in the mine on November 15, 1945 resulted in a shutdown. The second largest producer was the Eagle Shawmut Mine, operator of the Penn mine, Campo Seco district, Calaveras County. Production of zinc concentrates by the Mountain Copper Co., Ltd. from ore of the Mattie orebody in the Hornet mine, Flat Creek (Iron Mountain) district, Shasta County continued throughout 1945 at a greater rate than in 1944. Hoefling Bros. operator of the Big Bend mine, Yankee Hill district, Butte County, showed a substantial production although the total was less than in 1944. Zinc was also recovered from concentrates produced in increasing quantities by the Anaconda Copper Mining Co. in the Darwin section of the Coso district, Inyo County from properties formerly worked by Darwin Mines. Dunton-Ray & Greenwood operator of the Mohawk mine, Clark Mountain district, San Bernardino County reported the production of lead-zinc ore which was shipped to a smelter.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

HAROLD L. ICKES, Secretary R. R. SAYERS, Director

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For Release JANUARY 24, 1946.

MINERAL MARKET REPORT
No. MMS 1375

METAL MINING IN OREGON, 1945 - PRELIMINARY ANNUAL FIGURES

Oregon's gold, silver, copper, lead, and zinc mining industry showed only slight signs of recovery from the disastrously low level to which it had fallen in 1943 as a result of the War, according to preliminary figures prepared by the San Francisco office of the Bureau of Mines, United States Department of the Interior. These figures, which are in terms of recoverable metal, show gold production as 4,600 fine ounces, silver, 10,700 fine ounces, copper, 600 pounds, lead, 10,300 pounds, and zinc, 5,000 pounds, the first reported output of this last named metal in Oregon since 1937. Production in 1944 was 1,369 fine ounces of gold, 20,243 fine ounces of silver, 6,000 pounds of copper, and 8,000 pounds of lead. The value of the five metals in 1945 was $170,151 compared with $63,760 for four metals produced in 1944, an increase of 167 percent.

The average prices used by the Bureau of Mines in calculating the gross values of the outputs of the metals were: Gold $35.00 per fine ounce in 1944 and 1945; silver, $0.711+ per fine ounce in 1944 and 1945; copper, $0.135 per pound in 1944 and $0.136 in 1945; lead, $0.080 per pound in 1944 and $0.086 in 1945; zinc, $0.115 per pound in 1945. Although no zinc was produced in Oregon in 1944 the comparative price was $0.114 per pound.

Gold production in 1945, though more than three times the output in 1944, was only 4 percent of the production in the record year 1940 of 113,402 fine ounces valued at $3,969,070. The gain in production occurred during the last half of the year following, and as a direct reulst of, the revocation of the War Production Board Order L-208 effective July 1, 1945. The major proportion of production came from placer operations which were the easier to reopen and expand as compared with the lode mines; both types of mines were (and still are) faced with the problem of labor and supplies. The principal gold producer in 1945 was the Sumpter Valley Dredging Co. which operated a connected-bucket dredge in the Sumpter district, Baker County. The Sunshine Mining Co., (Burnt River Division) resumed operation of its dredge in the Greenhorn district, Baker County, late in 1945.

Prepared by Alfred L. Ransome, San Francisco Office, Metal Economics Division, Economics and Statistics Branch.

Production of silver, copper, lead, and zinc continued to be very small in 1945. Silver production for 1945 is estimated at 10,700 fine ounces valued at $7,609 compared with 20,243 fine ounces valued at $14,395 in 1944. The principal silver producer in 1945 as in 1944 was the Oregon King Mines, Inc., operator of the Oregon King mine, Ashwood district, Jefferson County. Copper production for 1945 was only 600 pounds valued at $82 compared with 6,000 pounds valued at $810 in 1944. The metal was recovered as a by-product at a lead smelter from lead ore. Lead production in 1945 increased slightly to 10,300 valued at $885 from 8,000 pounds in 1944 valued at $640. Zinc production in 1945 was 5,000 pounds valued at $575; there was no recorded production of zinc in 1944.

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MINERAL INDUSTRY SURVEYS

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For Release January 23, 1946.   MINERAL MARKET REPORT
NO. MMS. 1376

METAL MINING IN NEVADA, 1945 - PRELIMINARY ANNUAL FIGURES

Nevada production of each of the five metals, gold, silver, copper, lead, and zinc was below that for 1944 according to preliminary figures compiled by the San Francisco office of the Bureau of Mines, United States Department of the Interior. Gold and silver were both lower in quantity and value than in any year since 1933, and copper was lower in quantity than any year since 1938, and in value since 1939. Lead was slightly under 1944 in quantity, but the value was the highest since 1930. Zinc was only slightly below the all-time record for quantity and value set in 1944.

Mines in Nevada yielded (in terms of recovered metals) 101,500 fine ounces of gold valued at $3,552,500, 990,800 fine ounces of silver valued at $704,569, 104,950,000 pounds of copper valued at $14,273,200, 13,100,000 pounds of lead valued at $1,126,600, and 40,600,000 pounds of zinc valued at $4,669,000. The comparative outputs in 1944 were 119,056 fine ounces of gold valued at $4,166,960, 1,259,636 fine ounces of silver valued at $895,741, 122,464,000 pounds of copper valued at $16,532,640, 13,210,000 pounds of lead valued at $1,056,800 and 41,398,000 pounds of zinc valued at $4,719,372. Gold production decreased 15 percent in quantity and value, silver decreased 21 percent in quantity and value, copper decreased 14 percent in quantity and in value, lead decreased 1 percent in quantity, but increased 7 percent in value, and zinc decreased 2 percent in quantity and 1 percent in value.

The average prices used by the Bureau of Mines in calculating the gross values of the outputs of the metals were: Gold, $35.00 per fine ounce in 1944 and 1945; silver, $0.711+ per fine ounce in 1944 and 1945; copper, $0.135 per pound in 1944 and $0.136 in 1945; lead, $0.080 per pound in 1944 and $0.086 in 1945; and zinc, $0.114 per pound in 1944 and $0.115 in 1945. The total value of the five metals in 1945 was $24,325,869 compared with $27,371,513 in 1944, a decrease of 11 percent.

Preliminary data for 1945 indicate that 90 percent of Nevada gold was produced at lode mines and 10 percent at placers compared with 94 and 6 percent, respectively, in 1944. In 1945 as in 1944 one-half of the State's total gold was derived from copper ores; virtually all copper ore was treated by concentration and the concentrates smelted. Gold ore, most of which was cyanided, yielded over one quarter of the 1945 production of gold compared with 42 percent in 1944. Most of the remaining gold in 1945 was derived from lead-zinc ore though contributions were made by gold-silver, lead, silver, and other ores. These figures reflect an increase in gold production from gravels, but a decline in production from precious metal ores as well as a somewhat lower yield of byproduct gold from base-metal ores particularly copper ore.

Prepared by Alfred L. Ransome, San Francisco Office, Metal Economics Division, Economics and Statistics Branch.

The Kennecott Copper Corporation (Nevada Mines Division) a copper mine operator in the Robinson district, White Pine County was Nevada's leading gold producer in 1945, accounting for roughly one-third of the State's gold output. Second place was held by the Consolidated Coppermines Corporation, also a copper producer. These two companies and the International Smelting and Refining Co., operating the Copper Canyon mine, Battle Mountain district, Lander County, also a copper producer, supplied half of Nevada's total gold in 1945. The Manhattan Gold Dredging Co., continued dredging in the Manhattan district, Nye County; increased output boosted the operation into third place as a gold producer in 1945. The Getchell mine in the Potosi district, Humboldt County, was operated by the Getchell Mine, Inc. during the first half of 1945, but curtailed production, owing to the mine shutting down in May, resulted in the operation ranking fourth for 1945 instead of first as had been the case for the previous six years.

Other operations that produced over a thousand ounces of gold in 1945 included the Willow Creek Mines, Inc., which operated a cyanide plant at the Goldacres mine, Bullion district, Lander County, and the Combined Metals Reduction Co. which derived its gold from argentiferous lead-zinc ores produced from a group of mines in the Pioche district, Lincoln County.

Approximately 90 percent of Nevada's silver in 1945 was recovered from base metal ores. Somewhat less than half was derived from lead-zinc ore, and smaller quantities came from copper, lead, and gold-silver ores. The leading producers of silver from lead-zinc ore were the Combined Metals Reduction Co., Prince Consolidated Mining Co., and the Ely Valley mine, all in the Pioche district, Lincoln County, the Bristol Silver Mines Co., Bristol mine, Jack Rabbit district, Lincoln County, and the Union Lead Mining & Smelting Co., Union Lode mine, Galena district, Washoe County. The leading producers of silver from lead ore were the Salt Lake-Pioche Mining Co. (including lessees) Financier and Apex mines, Pioche district, Lincoln County, and Harrison & McWhorter and McFarland & Hullinger, the Cleveland mine, Delano district, Elko County. Copper concentrates shipped to smelters from the Kennecott Copper Corporation (Nevada Mines Division) and the Consolidated Coppermines Corporation mines in the Robinson district, White Pine County, and The International Smelting and Refining Co.'s Copper Canyon operation, Battle Mountain district, Lander County, were an important source of silver in 1945. Gold-silver ore shipped for siliceous flux by the Tonopah Mining Co. was an important source of silver.

Nevada copper production in 1945 continued the decline in effect since the all-time record of 1942. The decrease in copper production was distributed between the principal producers and was caused largely by a continuation of the labor shortage. Over one-half of the State's copper output came from the Kennecott Copper Corporation (Nevada Mines Division) which worked the Copper Flat open Pit and the Ruth mine, Robinson district, White Pine County, throughout the year. The second largest producer was the nearby Consolidated Coppermines Corporation. These two companies and the Mountain City Copper Mining Co., which worked the Rio Tinto mine, Cope district, Elko County, produced over 96 percent of the State total in 1945. A smaller output was reported for the Copper Canyon operation of the International Smelting and Refining Co., Battle Mountain district, Lander County.

The Pioche district produced nearly 50 percent of the lead and nearly 80 percent of the zinc in Nevada in 1945 according to preliminary data; all of the zinc and most of the lead was recovered from concentrates produced by the Combined Metal Reduction Co.'s Pioche mill. This mill operated on ore shipped to it by the Combined Metals Reduction Co. from the No. 2, Amalgamated, Abe Lincoln, and Raymond

Ely West mines, by the Prince Consolidated Mining Co. from the Prince mine, and by Ely Valley Mine from the Ely Valley mine. The Salt Lake-Pioche Mining Co., the only other large producer in the district, shipped argentiferous lead ore, mined on company account and by lessees, from the Apex and Financier mines, direct to a smelter.

In addition to the Pioche district mines there were a number of other lead and lead-zinc mines active in Nevada in 1945. The principal ones were: the Bristol mine, Jack Rabbit district, Lincoln County, Argentena mine, Yellow Pine (Goodsprings) district, Clark County, operated by the Argentena Consolidated Mining Co., Grand Deposit mine, Aurum district, White Pine County, operated by the Grand Deposit Mining Co., Mt. Hope mine, Eureka district, Eureka County, by the Callahan Zinc-Lead Co., Yellow Pine mine, Yellow Pine district, Clark County, operated by the Coronado Copper and Zinc Co., Sultan mine, Yellow Pine district, Clark County, operated by L. F. Jacobson, the Nevada Lead and Zinc Co's mine, Spruce Mountain district, Elko County, Columbia mine, Robinson district, White Pine County, operated by S. M. Robinson, Groom mine, Groom district, Lincoln County, operated by the International Mining Corporation, and the Union Lode mine, Galena district, Washoe County, operated by the Union Lead Mining and Smelting Co.

MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

HAROLD L. ICKES, Secretary R. R. SAYERS, Director

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FOR RELEASE JANUARY 23, 1946.

JAN 22 1946

Mineral Market Report
No. MMS 1377

METAL MINING IN WASHINGTON, 1945 - PRELIMINARY ANNUAL FIGURES

Washington mines in 1945 yielded gold, silver, copper, lead, and zinc valued at $7,039,650 compared with $7,195,136 in 1944, a 2-percent decrease, according to the Salt Lake Office of the Bureau of Mines, United States Department of the Interior. The output of each metal, except gold, was less than that in 1944; silver declined 13 percent, copper 4 percent, lead 38 percent, and zinc 5 percent; the gold output increased more than 21 percent.

Among the important features of the metal production in Washington in 1945 were the large increase in output of gold and zinc from the Holden mine of the Howe Sound Co. in Chelan County; the marked decrease in output of lead and zinc from mines in the Metaline district in Pend Oreille County; the continued decline in the State output of copper; the continued shortage of labor which was prevalent at all the larger operations in the State; and the rescinding effective July 1, 1945, of L-208 (the War Production Board gold-mine closing order of October 8, 1942), which resulted in increased activity at gold mines in Washington during the latter months of the year.

The production of gold in Washington in 1945 was greater than in 1944 owing to the increase in the average gold content of zinc-copper ore mined from the Holden property by the Howe Sound Co.; however, the output of ore from the mine declined 19 percent resulting in a decrease in the State production of copper. The production of silver was less owing principally to a decreased output from the Kaaba mine in Okanogan County and the Knob Hill mine in Ferry County. The lead and zinc output declined as a result of a substantial decrease in output of zinc-lead ore from properties at Metaline Falls operated by the Pend Oreille Mines & Metals Co., and the American Zinc, Lead & Smelting Co.

Mine production in Washington in 1945 (in terms of recoverable metals) was 57,500 fine ounces of gold, 279,000 fine ounces of silver, 11,800,000 pounds of copper, 7,200,000 pounds of lead, and 22,650,000 pounds of zinc. These figures compare with a total in 1944 of 47,277 ounces of gold, 321,608 ounces of silver, 12,338,000 pounds of copper, 11,650,000 pounds of lead, and 23,808,000 pounds of zinc. The preliminary figures for 1945 are based on reports by operators and receipts at smelters and mints covering ten months of the year with November and December estimated from other sources of information.

Prepared by C. E. Needham and Paul Luff, Salt Lake City Office, Metal Economics Division, Economics and Statistics Branch.

At the average prices used by the Bureau of Mines, the gross calculated value of the output of these metals in Washington in 1945, with comparative figures for 1944 in parentheses is: Gold, $2,012,500 ($1,654,695); silver, $198,400 ($228,699 copper, $1,604,800 ($1,665,630); lead, $619,200 ($932,000); and zinc, $2,604,750 ($2,714,112); a total of $7,039,650 compared with $7,195,136 in 1944.

The prices of domestic gold and silver fixed by the United States Government remained at $35 an ounce for fine gold and $771+ an ounce for fine silver. The weighted average price of copper was $0.136, lead $0.086, and zinc $0.115. These weighted average prices included metal paid for at the premium prices as well as metal sold at the regular market value; however, the base price of copper, lead, and zinc has remained unchanged since February 1942--copper has been $0.12 a pound lead $0.065 a pound (New York), and zinc $0.0825 a pound.

GOLD

The production of recoverable gold in Washington increased from 47,277 ounces valued at $1,654,695 in 1944 to 57,500 ounces valued at $2,012,500 in 1945. The Howe Sound Co. increased its output of gold more than 51 percent and remained the largest gold producer in Washington. The Knob Hill Mines, Inc., the only other large producer of gold in the State, treated less gold ore in its cyanidation-concentration mill than in 1944, and its output of gold declined more than 2,000 ounces. These two properties supplied 97 percent of the total gold output of the State. The output from placer mines in 1945 was very small.

SILVER

The production of recoverable silver in Washington in 1945 was 279,000 ounces valued at $198,400 compared with 321,608 ounces valued at $228,699 in 1944. The Howe Sound Co. was the largest producer of silver in the State, followed by the Knob Hill Mines, Inc. Nearly 81 percent of the total silver was derived from zinc-copper ore treated by flotation and siliceous gold ore treated by cyanidation-concentration; the remainder was recovered principally from zinc-lead ore treated by flotation. The Kaaba-Texas Mining Co. continued to operate its property in Okanogan County and was the third leading producer in the State in 1945, but its output was only one-half that in 1944. These three properties produced 91 percent of the State total silver.

COPPER

Copper production from Washington in 1945 again showed a decrease from that of the previous year and by comparison has shown a continuous decline for the past six years. As in former years, virtually the entire copper output came from zinc-copper ore of the Holden property of the Howe Sound Co. in Chelan County. The gold, silver, copper, and zinc contents of the ore were higher in 1945 than in 1944, but the output of ore dropped from 756,081 tons to about 612,000 tons.

LEAD AND ZINC

The output of recoverable lead in Washington in 1945 was 7,200,000 pounds, a loss of 4,450,000 pounds (38 percent), compared with the output in 1944, and the output of recoverable zinc was 22,650,000 pounds, a loss of 1,158,000 pounds (5 percent). The decline in lead output resulted from a lower lead content of the zinc-lead ores treated from the Metaline district of Pend Oreille County and from the decline in output of zinc-lead ore, whereas the decline in zinc output was caused chiefly by the decrease in the output of zinc-lead ore from the property operated by the Pend Oreille Mines & Metals Co. The zinc production from ore treated from the Holden mine of the Howe Sound Co. in 1945 was more than double that in 1944, owing to the higher zinc content.

The American Zinc, Lead & Smelting Co., operating the Grandview mine in the Metaline district, was the leading producer of zinc and lead in 1945 and was followed by the Pend Oreille Mines & Metals Co.; the Howe Sound Co. (zinc only); the Metaline Mining & Leasing Co. property operated by the American Zinc, Lead & Smelting Co.; and the Deep Creek mine in the Northport district, Stevens County, operated by the Jamison-Higginbotham Mining Co. These five properties produced 95 percent of the State total output of lead and 99 percent of the zinc.

Ore of all classes mined in Washington in 1945 aggregated about 975,000 tons compared with 1,180,662 tons in 1944. The decreased tonnage treated in 1945 appears to have resulted from a smaller quantity of each class of ore.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

HAROLD L. ICKES, Secretary
R. R. SAYERS, Director

FEB 2 1946

For Release February 4, 1946.

MINERAL MARKET REPORTS
NO. MMS 1378

METAL MINING IN UTAH 1945 - PRELIMINARY ANNUAL FIGURES

Utah remained the largest gold-producing State in the United States, was second in the output of copper, third in silver and lead, sixth in zinc, and the total value of these five metals exceeded that of any State in the Union with the exception of Arizona, according to the Salt Lake City Office of the Bureau of Mines, United States Department of the Interior. The State produced gold, silver, copper, lead, and zinc valued at $89,575,200 in 1945 compared with $111,036,247 in 1944, a 19-percent decrease. The output of each metal in 1945 was less than that in 1944; gold declined 20 percent, silver 20 percent, copper 19 percent, lead 26 percent, and zinc 21 percent. Declines were general throughout all the important producing districts in the State.

The outstanding features of the nonferrous metal industry in Utah in 1945 were the continued critical shortage of labor; the marked decrease in output of copper ore and zinc-lead ore from the mines at Bingham, resulting in a large decline in the State production of gold, silver, copper, lead, and zinc; a labor strike on the Bingham & Garfield Railroad in January which temporarily suspended production of copper ore at the Utah Copper open-pit mine at Bingham; the closing (temporarily) May 5 (reopened in December) of the Murray lead smelter of the American Smelting & Refining Co., owing to an insufficient supply of lead concentrates and crude ore; and the closing July 1 of the Tooele copper smelter of the International Smelting & Refining Co., because of an insufficient supply of copper concentrates and crude ore.

Although some mines were subject to monthly revisions of quotas for the payment of premiums for overquota metal production, the general policy of the Government pertaining to premium metal production as set forth in the latter part of 1943 prevailed throughout 1945.

Production in Utah in 1945 (in terms of recoverable metals) was 274,500 fine ounces of gold, 6,057,000 fine ounces of silver, 455,000,000 pounds of copper, 78,000,000 pounds of lead, and 61,500,000 pounds of zinc. These figures compare with a production in 1944 of 344,223 ounces of gold, 7,593,075 ounces of silver, 565,150,000 pounds of copper, 105,038,000 pounds of lead, and 77,988,000 pounds of zinc, indicating decreases of 69,723 ounces of gold, 1,536,075 ounces of silver, 110,150,000 pounds of copper, 27,038,000 pounds of lead, and 16,488,000 pounds of zinc. The preliminary figures for 1945 are based on reports by operators and receipts at smelters and the United States Mints for 10 months of the year, with November and December estimated from other sources of information.

Prepared by C. E. Needham and Paul Luff, Salt Lake City Office, Metal Economics Division, Economics and Statistics Branch.

At the average prices used by the Bureau of Mines, the gross calculated value of the production of these metals in 1945, with comparative figures for 1944 in parentheses, was: Gold, $9,607,500 ($12,047,805); silver, $4,307,200 ($5,399,520); copper, $61,880,000 ($76,295,250);lead, $6,708,000 ($8,403,040); and zinc, $7,072,500 ($8,890,632)--a total of $89,575,200 compared with $111,036,247 in 1944.

Of the grand total in 1945, the value of copper and gold was $71,487,500 or 80 percent; the value of copper alone was 69 percent. The Bingham district produced gold, silver, copper, lead and zinc valued at $79,373,779 ($99,509,472 in 1944) or nearly 89 percent of the State total; the Park City region $4,516,182 ($5,720,245 in 1944) or 5 percent; and the Tintic district $2,676,982 ($2,942,075 in 1944) or 3 percent. Most of the remainder was derived from mines and a slag-fuming plant in Tooele County.

The price of gold fixed by the United States Government remained at $35 per fine ounce and the price for newly mined domestic silver at $0.711+ per fine ounce. The average yearly weighted price for copper was $0.136 per pound, lead $0.086, and zinc $0.115. The average weighted price for base metals used herein includes both that purchased at market prices and that purchased at premium prices for "overquota" metal; however, the base price of copper, lead, and zinc has remained unchanged since February 1942--copper has been $0.12 a pound, lead $0.065 a pound (New York), and zinc $0.0825 a pound.

MILLING AND SMELTING

The mills, smelters, and slag-fuming plant located in the Salt Lake Valley area represent the largest aggregation of custom reduction plants for complex ores in the United States. The custom milling capacity of the concentration mills in the Valley area was about 3,900 tons of ore per day. Of this total about one-half was used. The Midvale 1,700-ton concentrator, operated by the United States Smelting, Refining & Mining Co., was the largest custom mill in the area and in 1945 treated almost entirely zinc-lead ore, most of which was obtained from company-owned properties in the Bingham district. The 1,500-ton concentrator at Tooele, Utah, owned and operated by the International Smelting & Refining Co., was active intermittently in 1945 at such times as sufficient milling ore was available for a run. The concentrator comprises 3 sections, each of 500 tons daily rated capacity--a copper section, an oxide lead section, and a zinc-lead section. The zinc-lead or oxide lead section was used at times to treat zinc-copper ore. The bulk of the ore in 1945, as in 1944, was from custom sources; the zinc-copper ores coming from California producers, the oxide ores from the Tintic Standard mine in Utah, copper ores from the National Tunnel & Mines Co. in Utah, and zinc-lead ores coming principally from the Park Utah Consolidated Mines Co. in Utah. The Combined Metals Reduction Co. Bauer 700-ton concentrator was active throughout 1945; the material treated was virtually all zinc-lead ore, and nearly all of it came from company-owned or operated mines in Utah and Idaho. The Silver King Coalition 800-ton concentrator at Park City was active throughout the year treating entirely zinc-lead-silver ore from the company mine.

The Garfield copper smelter, operated by the American Smelting & Refining Co., the Tooele lead smelter, operated by the International Smelting & Refining Co., and the Midvale lead smelter of the United States Smelting, Refining & Mining Co. were active throughout 1945, but the Murray lead smelter of the American Smelting & Refining Co. operated only 5 months of the year, and the Tooele copper smelter of the International Smelting & Refining Co. closed July 1 owing to insufficient ore. The Garfield plant treated virtually the entire output of the Utah Copper Co., The following table gives the metal production and its value (calculated at average prices shown later) in Utah and in the chief mining districts of the State in 1945, with comparative figures for 1944

Mine production of gold, silver, copper, lead, and zinc in Utah and in the chief mining districts of Utah, 1944-45, in terms of recoverable metal

	Ore (Short tons)	Gold (Fine ounces)	Silver (Fine ounces)	Copper (Pounds)	Lead (Pounds)	Zinc (Pounds)	Total Value
Total Utah							
1944.......	30,940,205	344,223	7,593,075	565,150,000	105,038,000	77,988,000	$111,036,247
1945.......	24,900,000	274,500	6,057,000	455,000,000	78,000,000	61,500,000	89,575,200
Bingham district							
1944.......	30,344,838	312,493	4,671,478	562,199,000	62,337,300	38,302,000	99,509,472
1945.......	24,278,182	246,600	3,555,786	450,750,000	44,270,000	27,000,000	79,373,779
Park City region							
1944.......	203,001	15,149	1,429,650	956,800	23,319,600	19,111,000	5,720,245
1945.......	160,000	14,200	1,043,000	733,000	18,130,000	14,075,000	4,516,182
Tintic district							
1944.......	214,467	11,417	1,070,214	1,066,200	10,637,700	6,899,000	2,942,075
1945.......	159,000	10,212	1,063,170	780,000	9,900,000	5,270,000	2,676,982

which was by far the greatest portion of its total feed; the Tooele copper smelter treated principally copper concentrates from the copper ores of the National Tunnel & Mines Co. at Bingham and copper concentrates produced at milling plants in Nevada and California; the Tooele lead plant, operated in conjunction with the Tooele slag-fuming plant, treated zinc-lead ores, zinc-copper ores, lead concentrates, and zinc ores from company-owned operations as well as from custom sources; the Murray plant treated lead concentrates, lead ores, and siliceous ores chiefly from mines in Idaho and Utah; and the Midvale plant treated lead concentrates and lead ores and siliceous ores mostly from its company-owned properties in Utah. The Tooele slag-fuming plant treated about 175,000 tons of slag and crude ore in 1945 compared with 133,378 tons in 1944; the resulting zinc fume (18,000 tons) averaged 72.81 percent zinc and was shipped to the International Minerals & Metals Corp., Bartlesville, Okla., and the lead fume (2,020 tons) averaged 46.96 percent lead and was re-treated at the Tooele lead smelter.

GOLD

Utah was again the largest gold-producing State in the Union; however, the output in 1945 was 274,500 fine ounces of gold compared with 344,223 ounces in 1944, a decrease of 20 percent. Gold produced in Utah is derived principally from copper ore and zinc-lead ore; in 1945 these ores contributed about 83 percent of the total gold output and siliceous ores most of the remainder. The Bingham district, by far the most important gold-producing area in the United States now active, produced 246,600 ounces of gold in 1945, a decrease of 65,893 ounces compared with 1944. The loss in the district output can be attributed to a smaller output or ore from each of the major gold-producing mines in the district. The Park City region, which includes the Blue Ledge, Uintah, and Snake Creek districts in Summit and Wasatch Counties, was the second most important producing area in the State. In 1945 the mines in this area produced about 14,200 ounces of gold, a loss of 949 ounces compared with 1944; most of this drop resulted from a decline in output of zinc-lead ore from the New Park property. The Tintic district produced 10,212 ounces of gold in 1945 (11,417 ounces in 1944) chiefly from siliceous ores, and was the third leading gold-producing area in the State. A decrease in gold output was noted also from mines in Tooele County. Most of the siliceous ore produced in the State in 1945 was used as flux at the Garfield and Tooele reverberatory copper smelters. Gold production from the Utah Copper Co. was 20 percent less in 1945 than in 1944; nevertheless, the company remained by far the largest gold producer in the United States. It was followed in Utah by the United States and Lark group at Bingham (zinc-lead ore), the New Park property at Keetley (zinc-lead ore), the Tintic Bullion mine (gold ore), and the Tintic Standard property in the Tintic district (gold-silver ore and lead ore), the Niagara mine (zinc-lead ore) Boston Consolidated property (copper ore) and National Tunnel & Mines Co. in the Bingham district (copper ore and zinc-lead ore), the Calumet mine in the Rush Valley district (zinc-lead ore), and the Butterfield group in the Bingham district (zinc-lead ore). These 10 properties produced more than 96 percent of the State output of gold.

SILVER

The output of recoverable silver in Utah in 1945 was 20 percent less than in 1944, as decreases were noted in the three principal silver-producing districts. The Bingham district remained the leading silver-producing area in the State and supplied 59 percent of the State silver output; however, its production in 1945 was 1,115,692 ounces less than in 1944. The decrease was caused by a smaller output from the two principal silver-producing mines in the district--the Utah Copper and the United States and Lark properties. The Tintic district, the second leading silver-producing area in the State in 1945, showed a loss of only 7,044 ounces. The marked decrease in production of silver from the Harold dump more than offset substantial increases from the Tintic Standard and Chief Consolidated properties. The Park City region, the third leading silver-producing area in the State in 1945, showed a loss of 386,650 ounces of silver, resulting from substantial decreases at each of the three principal producers--Park Utah Consolidated, Silver King Coalition, and New Park. According to preliminary calculations, zinc-lead ore, zinc ore, and lead ore supplied 50 percent of the total State output of silver, copper ore 33 percent, and siliceous ore the remainder. The Utah Copper Co. was again the principal producer of silver in the State; however, its output in 1945 was about 480,000 ounces less than in 1944, owing to a decline in output of copper ore. The United States and Lark property, the second leading silver producer in the State, showed a loss of about 540,000 ounces of silver in 1945, resulting from a smaller output of zinc-lead ore. Other large producers of silver in order of output were the Tintic Standard, New Park, Silver King Coalition, Park Utah Consolidated, Chief Consolidated, Calumet, and Godiva properties. These 9 properties supplied more than 87 percent of the State total output of silver in 1945.

COPPER

The output of recoverable copper in Utah in 1945 was about 455,000,000 pounds, a decrease of 110,150,000 pounds from 1944, and the smallest output since 1939. Although all of the principal copper-producing operations in Utah, with the exception of the Ohio Copper Co. operation at the Big Indian property in San Juan County, showed a decline in production, the greatest was at the Utah Copper property at Bingham. The company treated a daily average of about 64,255 tons of copper ore in 1945 compared with 80,200 tons in 1944; operations in the open-pit were continuous throughout the year except for brief stoppages resulting from labor strikes. The company maintained its position as the leading copper and gold producing mine in the United States, and in addition to the copper, gold, and silver in the ore, a substantial quantity of molybdenum was recovered as a byproduct. The driving of the 4,600-foot transportation tunnel from a point on the outskirts of the town of Bingham to the present floor of the Utah Copper open pit continued throughout 1945, and at the close of the year it was nearing completion. The tunnel will provide an outlet for sublevel copper ore coming from the open pit.

Other mines in Utah that yielded over a million pounds of recoverable copper in 1945 were the National Tunnel & Mines Co. property, the Columbia group of the Ohio Copper Co., and the United States and Lark properties, all in the Bingham district, and the Big Indian property of the Ohio Copper Co. in the La Sal district in San Juan County. These five properties supplied 99 percent of the State total output of copper. A total of about 24,055,000 tons of copper ore was treated in 1945 compared with 29,930,659 tons in 1944.

LEAD

The output of recoverable lead in Utah in 1945 was about 78,000,000 pounds, a decrease of 26 percent from 1944. During the year the principal lead-producing mines in the State probably had the greatest shortage of labor experienced by any of the mines in the State. These shortages, as well as stoppages due to other causes, and the fact that the mines operated one shift a day rather than two shifts a day, resulted in the lowest output in the State since 1899. The Bingham district remained the chief source of lead output in the State in 1945 but showed a decrease of over 18,000,000 pounds from that in 1944. Each of the larger producing companies in the district reported substantial decreases--the output from the United States and Lark group, by far the largest producer of lead in the State, declined more than 16,000,000 pounds. Mines in the Park City region were the second leading source of lead in the State and in 1945 produced approximately 18,130,000 pounds, a decrease of 5,189,600 pounds compared with 1944. Each of the larger producers in the region showed a decrease--the largest was that of the Park Utah Consolidated Mines Co. and aggregated about 2,888,000 pounds. The Tintic district, the third leading source of lead in the State, produced about 9,900,000 pounds, a decrease of 737,700 pounds compared with 1944. The decrease from the Harold dump and the Chief Consolidated mine more than offset an increase of about 1,310,000 pounds at the Tintic Standard property. A considerable quantity of siliceous ore containing 3 to 4 percent lead was shipped from mines and tailings dumps in the Tintic district to be used as flux in the copper smelters in the Salt Lake Valley area. Recoverable lead from these sources aided materially in cushioning the effect of losses at other properties in the district. The United States and Lark property in the Bingham district, operated by the United States Smelting, Refining & Mining Co., remained by far the largest producer of lead in the State. It was followed by the New Park and Park Utah Consolidated properties in the Park City region, the Tintic Standard mine in the Tintic district, the Silver King Coalition mine in the Park City region, the Calumet mine in the Rush Valley district, the Chief Consolidated mine in the Tintic district, the Montana-Bingham and the Butterfield properties at Bingham, and the Tooele slag-fuming plant in Tooele County. These 10 operations supplied 98 percent of the total output of lead in Utah in 1945.

ZINC

The output of recoverable zinc in Utah in 1945 was 61,500,000 pounds, a decrease of 21 percent from 1944, and the smallest output since 1934. Marked decreases were noted in all the principal zinc-producing districts, except in Tooele County, where a substantial increase can be attributed almost entirely to the Tooele slag-fuming plant operation. The Bingham district showed a decline of 11,302,000 pounds (more than 29 percent), which was caused mainly by a loss at the United States and Lark property. The output of zinc in the Park City region declined about 5,000,000 pounds (26 percent), resulting principally from decreases at the Park Utah Consolidated and Silver King Coalition properties. The decrease of 1,629,000 pounds in zinc production from the Tintic district was attributed almost entirely to the decline in output from the Chief Consolidated mine as it is virtually the only producer of zinc in the district. The Tooele slag-fuming plant produced the second largest quantity of zinc in the State in 1945 and showed an increase of almost 2,000,000 pounds over 1944. Although the plant treated a total of about 175,000 tons of zinc-bearing slag in 1945, only that zinc recovered from about 70,000 tons is credited to Utah. The leading producers of zinc in Utah in 1945 were the United States and Lark mines in the Bingham district, the Tooele slag-fuming plant in Tooele County, the New Park mine in the Park City region, the Chief Consolidated mine in the Tintic district, the Park Utah Consolidated property in the Park City region, the Calumet mine in the Rush Valley district, and the Silver King Coalition mine in the Park City region. These 7 properties supplied 93 percent of the State total output of zinc.

ORE AND MINES

A total of about 24,900,000 tons of ore and tailings was treated in 1945 compared with 30,940,205 tons in 1944. Most of the loss was in copper ore and zinc-lead ore from the Bingham district. More than 96 percent of the total ore and tailings was copper ore and 2 percent zinc-lead ore and tailings; the remainder was principally siliceous ore, zinc ore and slag, and lead ore. The number of mines operating in 1945 was about the same as in 1944 when 97 lode mines were producing. No placer properties operated in Utah in 1945 or 1944.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

HAROLD L. ICKES, Secretary   R. R. SAYERS, Director

For release January 24, 1946.

MINERAL MARKET REPORT
M. M. S. NO. 1379

MINE PRODUCTION OF LEAD AND ZINC IN THE UNITED STATES, 1945 - PRELIMINARY ANNUAL FIGURES

In 1945 the total mine production of recoverable lead and zinc in the United States and Alaska (including that made into pigments and chemicals direct from ore) was 387,942 short tons of lead and 615,927 short tons of zinc, the smallest outputs since 1938 and 1939, respectively, according to preliminary figures of the Bureau of Mines, United States Department of the Interior. These figures compare with a production of 416,861 short tons of lead and 718,642 short tons of zinc in 1944, indicating decreases of 7 percent in the output of lead and 14 percent in the production of zinc. The greatest single factor contributing to the over-all decline in output of both metals was the critical shortage of manpower reportedly greater during the latter months of 1945 than at any time during the war period. The total value of the metals produced in 1945 was $66,726,024 for lead and $141,663,210 for zinc.

The following table and summary reviews of lead and zinc production were obtained from current reports of the western field offices of the Bureau of Mines.

Lead

The mine production of recoverable lead (including that made into lead pigments) in the United States and Alaska was 387,942 short tons in 1945, a decrease of 7 percent from 1944. At the average weighted yearly price of $0.086 per pound, the output in 1945 was valued at $66,726,024. This compares with a value of $66,697,760 in 1944, which was calculated at the average weighted price for that year of $0.08.

Prices. - The ceiling price for lead at St. Louis remained at 6.35 cents per pound (6.50 cents in New York) throughout the year. Subsidy payments for over-quota production under the Premium Price Plan continued to be paid to lead producers during 1945. The original plan, in force since February 1, 1942, was operative only until July 31, 1945. On June 14, 1945, Congress passed the Hayden-McFarland bill, S-502, extending the time limit of the plan to June 30, 1946.

Eastern States. - The output of recoverable lead in Virginia in 1945 was 4,430 tons compared with 4,622 tons in 1944, the bulk of which came from the Austinville mine and 2,000-ton flotation mill in Wythe County. In Spotsylvania County near Paytes, the Valzinco mine operated since September 1942 by Panaminas, Inc., was closed in January 1945. New York produced 800 tons of lead in 1945 compared with 1,644 tons in 1944, all of which came from the Balmat mine of the St. Joseph Lead Company in St. Lawrence County. A small quantity of lead was recovered in Tennessee from lead carbonate ore mined by the Tennessee Zinc Company in the Lick Log area.

Prepared by Richard H. Mote, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Mine production of lead and zinc in the United States and Alaska 1944-45, in short tons, in terms of recoverable metals

Region and State	Lead		Zinc	
	1944	1945 1/	1944	1945 1/
Eastern States:				
New Jersey............	—	—	80,288	82,320
New York..............	1,644	800	35,541	25,600
Tennessee.............	—	70	40,831	34,000
Virginia..............	4,622	4,430	19,667	17,400
	6,266	5,300	176,327	159,320
Central States:				
Arkansas..............	—	1	19	335
Illinois..............	1,971	3,327	7,262	8,235
Kansas................	9,394	7,380	63,703	48,770
Kentucky..............	170	87	341	170
Missouri..............	174,683	178,000	36,626	22,230
Oklahoma..............	13,944	12,700	91,449	70,790
Wisconsin.............	1,415	1,581	15,549	15,430
	201,577	203,076	214,949	165,960
Western States and Alaska:				
Alaska................	44	10	—	—
Arizona...............	16,707	20,750	29,077	38,250
California............	5,682	6,470	8,455	8,935
Colorado..............	17,698	16,328	39,955	36,135
Idaho.................	83,530	67,750	91,372	78,000
Montana...............	13,105	12,000	36,127	28,000
Nevada................	6,605	6,550	20,699	20,300
New Mexico............	7,265	7,100	50,727	38,950
Oregon................	4	5	—	2
South Dakota..........	34	—	56	—
Utah..................	52,519	39,000	38,994	30,750
Washington............	5,825	3,600	11,904	11,325
Wyoming...............	—	3	—	—
	209,018	179,566	327,366	290,647
Total.....................	416,861	387,942	718,642	615,927

1/ Preliminary figures.

Central States. - The Southeastern Missouri district continued to be the largest lead-producing area in the United States with a production of 174,400 tons in 1945 compared with 169,622 tons in 1944. This district alone supplied 45 percent of the total domestic mine output. The mines of the St. Joseph Lead Company in St. Francois County continued, as in the past, to produce the bulk of the output from their Bonne Terre, Desloge, Federal, and Leadwood groups of mines, each of which is equipped with a mill. The total capacity of the four mills is 21,400 tons per day. The Mine La Motte mine and 1,500-ton (daily) mill in Madison County, operated by the St. Joseph Lead Company, was also a large continuous producer. Other properties which operated continuously during the year were: The St. Louis Smelting & Refining Co. Madison mine and 600-ton mill at Fredericktown; Park City Consolidated Mines Co. Ruth mine and 500-ton mill; and the Fredericktown Lead Co. Catherine and Fleming mines and 400-ton mill northwest of Fredericktown. At Valles Mines, Jefferson County, the De Soto Lead & Zinc Co. 200-ton mill operated on zinc-lead-iron carbonate ore from dumps on the Valle Mining Co. properties. In Moniteau County the open-pit zinc-lead-coal mine and 100-ton jig mill on the Monarch Coal & Mineral Co. land, operated by the Wemhauer Mining Corporation since 1940, was closed in May 1945. The Tri-State (or Joplin) region (Kansas, Southwestern Missouri, and Oklahoma) produced 6 percent of the total domestic lead output in 1945 compared with 7 percent in 1944. Illinois (a small production from Northwestern Illinois mines has been credited to Wisconsin because it was recovered in mills in that State) produced 3,327 tons of recoverable lead in 1945, most of which was recovered as a byproduct from the fluorspar mine of the Mahoning Mining Co. near Cave in Rock, Southeastern Illinois. Mines in the Wisconsin zinc-lead mining area produced 1,581 tons of recoverable lead during 1945. The Vinegar Hill Zinc Co. custom flotation mill at Cuba City continued to treat crude ore and rougher jig zinc-iron-lead concentrates purchased from operators in Wisconsin and Northern Illinois.

Western States. - Mine production of recoverable lead in the Western States (Alaska included) was 179,566 tons in 1945, a decline of 14 percent from 1944. The Western States in 1945 produced 46 percent of the total domestic output. Idaho continued to be the largest producer of lead in the Western States and second largest in the United States. The 1945 output of 67,750 tons was 19 percent less than in 1944 and the smallest production in any year since 1899. The Bunker Hill & Sullivan mine remained the largest lead producer in the State although its output declined about 30 percent from that in 1944. Other large producers in order of output were the Osburn tailings, Morning, Star, Page, Sweeny tailings, Sherman, Triumph, Tamarack & Custer, Frisco, Bunker Hill smelter slag, Monitor, Sunshine, Dayrock, and Polaris properties; the first nine properties each with an output of more than 2,000 tons produced 65 percent of State total lead. About 85 percent of the State lead output came from zinc-lead ore and old tailings, and the remainder largely from lead ore.

Although lead output in Utah, the lowest since 1899, dropped 26 percent below the 1944 production, the State continued to rank second among the Western States with an output of 39,000 tons. The Bingham district remained the chief source of lead in 1945 but registered a decrease of over 9,000 tons from the 1944 output. In spite of a decrease of over 8,000 tons from the 1944 output, the United States and Lark property in the Bingham district, operated by the United States Smelting, Refining & Mining Co., remained by far the largest producer of lead in the State.

It was followed by the New Park and Park Utah Consolidated properties in the Park City region, the Tintic Standard mine in the Tintic district, the Silver King Coalition mine in the Park City region, the Calumet mine in the Rush Valley district, the Chief Consolidated mine in the Tintic district, the Montana-Bingham and the Butterfield properties at Bingham, and the Tooele slag-fuming plant in Tooele County. These ten operations accounted for 98 percent of the total output of lead in Utah in 1945.

The 20,750 tons of lead produced in Arizona in 1945 was the largest output in any year in the history of the State and 24 percent greater than in 1944. This gain was due chiefly to the marked increase in output of zinc-lead ore from the Copper Queen mine at Bisbee, which was by far the largest lead producer in Arizona in 1945. Other important producers of lead were the Mammoth-St. Anthony property at Tiger, the Iron King at Humboldt, the San Xavier (Eagle-Picher Mining & Smelting Co.) south of Tucson, the Trench-Flux near Patagonia, and the Tennessee-Schuylkill at Chloride. About 98 percent of the lead output in 1945 was recovered from zinc-lead ore and the rest largely from lead ore.

The Colorado production of recoverable lead in 1945 was 16,328 tons, 8 percent less than in 1944. Lead ore was produced in nearly all lode-mining counties in Colorado in 1945; the larger producers were the Ore & Chemical Co., Resurrection Mining Co., and American Smelting & Refining Co. Leadville Milling Unit in Lake County, Rico Argentine Mining Co. in Dolores County, New Jersey Zinc Co. in Eagle County, Denver Equipment Co. and Shenandoah Dives Mining Co. in San Juan County, Telluride Mines, Inc. in San Miguel County and Idarado Mining Co. in Ouray County (orebody in San Miguel County and production credited there).

The output of recoverable lead in Montana in 1945 was 12,000 tons, a decrease of 8 percent from 1944 and the lowest yearly production since 1938. Nearly half of the lead produced during the year was derived from a large number of relatively small producers, none of which produced over 400 tons of recoverable metal. The Mike Horse mine near Flesher was again the largest producer of lead in the State and was followed by the Emma mine at Butte, the slag-fuming plant at East Helena operated by the Anaconda Copper Mining Co., the Anaconda property at Butte, the Jack Waite mine in Sanders County, the Poulin mine at Butte, and the Toledo-Buckeye group near Sheridan.

In New Mexico the production of recoverable lead was 7,100 tons in 1945, only slightly below the 1944 output. The principal producers continued to be the Hanover Unit of the American Smelting & Refining Co., the Bullfrog mine of the United States Smelting, Refining & Mining Co., the Hanover mine group of the Empire Zinc Co., Peru Mining Co., and Black Hawk Consolidated Mining Co., all in the Central district, Grant County; and the Waldo mine and mill of the American Smelting & Refining Co. in the Magdalena district, Socorro County.

The 1945 production of recoverable lead in Nevada was 6,550 tons, virtually the same as the 1944 output. Most of the lead was recovered from concentrates produced in the Combined Metals Reduction Co. Pioche mill. Mines in the Pioche district produced nearly 50 percent of the lead in Nevada in 1945.

Over half of the California 1945 output of 6,470 tons of recoverable lead was produced by the Anaconda Copper Mining Co. (successor to Darwin Mines), operator of a group of mines in the Darwin section of the Coso district, Inyo County. The Finley Co. (successor to Shoshone Mines, Inc.), operator of the Columbia No. 2 mine, Resting Springs district, Inyo County was second in output with approximately 15 percent of the total lead production of the State.

Washington produced 3,600 tons of recoverable lead in 1945, a decrease of 38 percent from 1944 due to a decline in lead content and tonnage of zinc-lead ores treated from the Metaline district of Pend Oreille County. The American Zinc, Lead & Smelting Co. Grandview mine in the Metaline district was the leading lead producer, followed by the Pend Oreille Mines and Metals Co., the Metaline Mining & Leasing Co. property operated by the American Zinc, Lead & Smelting Co., and the Deep Creek mine in the Northport district, Stevens County, operated by the Jamison-Higginbotham Mining Co. These five properties accounted for 95 percent of the State total lead output in 1945.

Zinc

The mine production of recoverable zinc (including that recovered as zinc pigments and salts direct from ore) in the United States was 615,927 short tons in 1945, a decrease of 14 percent from 1944. At the average weighted yearly price used by the Bureau of Mines of $0.115 cents per pound, the output in 1945 was valued at $141,663,210 compared with $163,850,376 in 1944 calculated at the average weighted price for that year of $0.114.

Price. - The ceiling price for zinc at St. Louis remained at 8.25 cents per pound throughout the year. The general policy of the Quota Committee pertaining to the Premium Price Plan for over-quota production of domestic zinc prevailed throughout 1945.

Eastern States. - The zinc output of the Eastern States, as usual, came from New Jersey, Tennessee, New York and Virginia. The New Jersey production increased slightly over 1944, but that of the other three States decreased. New Jersey advanced in rank among the States in the United States in zinc production from third to first, with an output of 82,320 tons compared with 80,288 tons in 1944, passing Oklahoma and Idaho. The producing mines were the Mine Hill at Franklin and the Sterling Hill at Ogdensburg, Sussex County. The production of recoverable zinc in Tennessee in 1945 was 34,000 tons compared with 40,831 tons in 1944 and the record high of 43,971 tons in 1942. The Davis-Bible group of the Universal Exploration Co. at Jefferson City continued to be a large producer in 1945. The American Zinc, Lead and Smelting Co. operated the Grasselli, Jarnagin, Mossy Creek, and Shallow Ore mines in Jefferson County. The Tennessee Copper Co. at Ducktown, Polk County, produced zinc concentrates as a byproduct of its copper-iron mining and milling operations. Other producing mines were the Tennessee Zinc Co. property in the Embreeville district in Washington and Unicoi Counties and the Hoover mine in Cannon County, east of Murfreesboro. Mines in New York produced 25,600 tons of zinc in 1945 compared with 35,541 tons in 1944. The producing mines as in recent years were the Balmat and Edwards properties of the St. Joseph Lead Co. in St. Lawrence County. Virginia mines produced 17,400 tons of zinc in 1945 compared with 19,667 tons in 1944. The Austinville mine in Wythe County, which has been in continuous operation since 1927, contributed the bulk of the State output.

Central States. - The Central States (comprising in order of output, Oklahoma, Kansas, Missouri, Wisconsin, Illinois, Arkansas, and Kentucky) produced 165,960 short tons of recoverable zinc in 1945, a decrease of 23 percent from the 1944 output. The Tri-State (or Joplin) region of Oklahoma, Kansas, and Southwestern Missouri produced 141,172 tons of recoverable zinc (23 percent of the total domestic output) compared with 190,270 tons (26 percent) in 1944. The average grade of crude ore mined and old tailings retreated continued to decline in 1945. The average recovery of combined zinc and lead concentrates from crude ore decreased from 3.71 percent in 1944 to 3.42 percent in 1945, and the recovery from old tailings from 0.44 to 0.37 percent. About 49 mills were operating in the region in December 1945, of which 17 were tailing mills compared with 52 in December 1944, including 16 tailing mills. The leading producers of zinc in the Tri-State region in 1945 included: The Eagle-Picher Mining and Smelting Co., St. Louis Smelting and Refining Co., Federal Mining and Smelting Co., American Zinc, Lead and Smelting Co., Beck Mining Co., Oronogo Mutual Mining Co., Kansas Explorations, Inc., Rialto Mining Corporation, United Zinc Smelting Corporation, and Evans-Wallower Zinc, Inc. The zinc-lead mining area (Grant, Iowa, and Lafayette Counties) in Wisconsin yielded 15,430 tons of recoverable zinc in 1945 compared with 15,549 tons in 1944. The production of recoverable zinc in Illinois in 1945 was 8,235 tons compared with 7,262 tons in 1944. Some zinc was produced also in Arkansas and Kentucky.

Western States. - The Western States production of recoverable zinc in 1945 was 290,647 tons, a decrease of 11 percent from the 1944 output. Idaho continued to be the largest zinc-producing State in the Western States although the 1945 production of 78,000 tons was 15 percent below the 1944 output. The Bunker Hill zinc slag-fuming plant was the largest producer of zinc in Idaho in 1945, followed by the Star, Osburn tailings, Morning, Page, Monitor, Tamarack & Custer, Frisco, Triumph, Little Pittsburg, Bunker Hill & Sullivan mine, Spokane-Idaho, Highland Surprise, Sunset, Sweeny tailings, Sidney, Canyon Creek tailings, and Douglas properties. These 18 properties, all in the Coeur d'Alene region except the Triumph, produced 94 percent of the State total output.

Despite a 23-percent decline in the 1945 output of zinc, New Mexico continued to rank second among the zinc-producing States of the West. Approximately 95 percent of all the zinc produced in New Mexico in 1945 came from mines in the Central district, Grant County, and included the Hanover group of the Empire Zinc Co., the Ground Hog-San Jose group and Hanover Milling Unit of the American Smelting & Refining Co., the Pewabic, Copper Flat, and Kearny properties of the Peru Mining Co., the Bullfrog mine of the United States Smelting, Refining & Mining Co., the Hobo mine of the Black Hawk Consolidated Mining Co., and the Oswaldo mine of the Kennecott Copper Corporation. Much of the remainder of the zinc produced in New Mexico in 1945 came from the American Smelting & Refining Co. Waldo mine in the Magdalena district, Socorro County, and the Carlisle group of mines in the Steeple Rock district, Grant County.

Arizona produced 38,250 tons of recoverable zinc in 1945, exceeding the record output of 1944 by 9,173 tons (32 percent). The Copper Queen, Mammoth-St. Anthony, and Iron King properties produced nearly 73 percent of the State zinc output in 1945. Other large producers were the San Xavier, Trench-Flux, Magma, Republic (Coronado Copper & Zinc Co.), and Tennessee-Schuylkill properties. About 90 percent of the zinc output in 1945 was recovered from zinc-lead ore and nearly all the remainder from zinc-copper ore.

The output of recoverable zinc in Colorado was 36,135 tons in 1945, a decline of 3 percent from 1944. Over 40 percent of the total output of zinc came from the Eagle mine of the New Jersey Zinc Co. Empire Zinc Division at Gilman, Eagle County. Other large producers of zinc in Colorado in 1945 included the Rico Argentine Mining Co. at Rico, Dolores County; Resurrection Mining Co., Ore & Chemical Co., and American Smelting & Refining Co. Leadville Milling Unit in Lake County; Telluride Mines, Inc., in San Miguel County; Idarado Mining Co. (production from San Miguel County) and King Lease, Inc., in Ouray County; and Shenandoah-Dives Mining Co. and Denver Equipment Co. in San Juan County.

Utah produced 30,750 tons of recoverable zinc in 1945, a drop of 21 percent from 1944, and the smallest production since 1934. Marked decreases were noted in all the principal zinc-producing districts, except in Tooele County, where a substantial increase can be attributed largely to greater output at the Tooele slag-fuming plant. The leading producers of zinc in Utah in 1945 were the United States and Lark mines in the Bingham district, the Tooele slag-fuming plant in Tooele County, the New Park mine in the Park City region, the Chief Consolidated mine in the Tintic district, the Park Utah Consolidated property in the Park City region, the Calumet mine in the Rush Valley district, and the Silver King Coalition mine in the Park City region. These seven properties produced 93 percent of the State total output of zinc.

The output of recoverable zinc in Montana in 1945 was 28,000 tons, 22 percent less than the 1944 production and nearly 70 percent below the 92,350-ton yearly average during the war period 1914-1918. Approximately 63 percent of the total State output of zinc was derived from current slag fumed at East Helena. Other large producers in 1945 in order of output were the Emma, Poulin, Mike Horse, Toledo-Buckeye, Travona, Anaconda, and Forest Rose properties.

Nearly 80 percent of 20,300 tons of recoverable zinc produced in Nevada in 1945 came from the Pioche district; all of the zinc from this district was recovered from concentrates produced at the Combined Metals Reduction Co. Pioche mill.

Washington produced 11,325 tons of recoverable zinc in 1945, a decrease of 5 percent from the 1944 output. The Grandview mine in the Metaline district, operated by the American Zinc, Lead and Smelting Co., was the leading producer of zinc in 1945 and was followed by the Pend Oreille Mines and Metals Co., the Howe Sound Co., the Metaline Mining and Leasing Co. property operated by the American Zinc, Lead and Smelting Co., and the Deep Creek mine in the Northport district of Stevens County, operated by the Jamison-Higginbotham Mining Co. These five properties produced 99 percent of the State total zinc output.

The output of recoverable zinc in California in 1945 was 8,935 tons, an increase of 6 percent over the 1944 output. The largest producer in 1945 was the Red Cloud Mine, Inc., Blue Moon mine in the Hunter Valley district, Mariposa County. This operation, which commenced shipping concentrates in January 1944, was shut down indefinitely November 15, 1945 due to a major cave-in.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

HAROLD L. ICKES, Secretary R. R. SAYERS, Director

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For Release January 24, 1946

MINERAL MARKET REPORT
MMS NO. 1380

MINE PRODUCTION OF COPPER IN THE UNITED STATES IN 1945 - PRELIMINARY ANNUAL FIGURES

Production of recoverable copper by mines in the United States declined 20 percent in 1945 as compared with 1944, and was the smallest reported since 1939, according to the Bureau of Mines, United States Department of the Interior. The principal impediment to production throughout the country was the inability of operators to obtain an adequate supply of satisfactory labor. All areas except Colorado reported a loss in output; the Colorado increase was relatively small. The decrease occurred despite persistent domestic demand considerably in excess of the supply from domestic mines, even after the cessation of hostilities with Germany and Japan. The lower rate of production was also in the face of more generous bonus payments (a larger percentage of the whole output obtained premium payments and the average cost per pound produced was higher). Provision was made during the year for a continuation of the Premium Price Plan at least through June 1946.

Arizona, Utah, Montana, New Mexico and Nevada continued to be the outstanding copper-producing States, production from the vein mines and from tailings and dumps in Montana declining 23 percent, or more than the average for the country as a whole; output of the other leaders fell from 14-20 percent. Michigan production was adversely affected by the canceling after August 31 of special Metals Reserve Company contracts with certain producers, which resulted in the closing of some properties. The decrease in output in Michigan amounted to 28 percent.

The following table and State reviews for 1945 were obtained from current preliminary reports of the western field offices of the Bureau of Mines.

Arizona.--Arizona continued preeminent among copper-producing States of the country, but output in 1945 dropped 20 percent. The drop noted was due chiefly to the decline in output of copper ore from each of the seven large copper-producing districts. The Morenci mine was by far the largest producer of copper in Arizona in 1945, followed by the New Cornelia, Inspiration, Castle Dome, Miami, United Verde, Kennecott (Ray), Copper Queen, Magma, Bagdad and Denn properties. These 11 mines contributed 280,500 short tons in 1945 compared with 11 mines producing 349,815 tons in 1944, or 98 percent of the total for the State. The leading districts, in order of output in 1945, with decreases from 1944 in parentheses, were the Copper Mountain (Morenci) (6 percent), Globe (Inspiration-Miami) (18 percent), Ajo (18 percent), Verde (23 percent), Mineral Creek (Ray) (30 percent), Warren (61 percent), and Pioneer (Superior) (35 percent).

Prepared by Helena M. Meyer, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Mine production of copper in the United States, 1944-45, in terms of recovered copper, in short tons

Region and State	1944	1945
Eastern States	15,049	12,471
Central States:		
Michigan	42,421	30,665
Missouri	3,302	3,000
	45,723	33,665
Western States and Alaska:		
Alaska	2	-
Arizona	358,303	285,500
California	12,721	6,905
Colorado	1,048	1,381
Idaho	1,688	1,675
Montana	118,190	90,500
Nevada	61,232	52,475
New Mexico	69,730	56,550
Oregon	3	(1)
South Dakota	1	-
Texas	115	40
Utah	282,575	227,500
Washington	6,169	5,900
	911,777	728,426
Total	972,549	774,562

1/ Less than one-half ton.

California.--Production of copper in California in 1945 amounted to little more than half of the 1944 output. A little more than one quarter of the State copper output was produced up to the time of the closing of the mine in June, 1945 from the Dakin mine, Klamath River district, Siskiyou County, by the Gray Eagle Copper Co., an affiliate of the Newmont Mining Corp. The Mountain Copper Co., the second largest producer in the State in 1945 accounted for one quarter of the State total from operations at the Hornet mine, Flat Creek (Iron Mountain) district, Shasta County. The Keystone Copper Corp. operated the Keystone mine, Copperopolis district, Calaveras County, but suspended activity in July. Other producers included the Newton mine, Ione district, Amador County; the Union mine tailings, Copperopolis district, Calaveras County; the Penn mine, Campo Seco district, Calaveras County; and the Big Bend mine, Yankee Hill district, Butte County.

Colorado.--Copper production in Colorado increased from 1,048 short tons in 1944 to 1,381 short tons in 1945 against the trend for all other States.

Eastern States.--The Ducktown district, Polk County, Tenn., is the principal copper-producing district in the Eastern States. Next in importance in production in 1945 was the Cornwall iron (magnetite-pyrite-chalcopyrite) mine of the Bethlehem Steel Co., Lebanon County, followed by the Elizabeth mine, Vermont, and by Virginia where copper was chiefly from copper ore from the Toncrea mine, Floyd County. North Carolina, which produced considerable copper annually from 1926-1944, had no output in 1945.

Michigan.--Michigan copper production dropped 28 percent in 1945 owing chiefly to mine shut-downs of the Copper Range Co. and Quincy Mining Co., following the termination of special Government contracts at the end of August, and to overall labor problems. Substantial expansion of tailings production was accomplished at Quincy, however. Calumet and Hecla Consolidated Copper Co. operated throughout the year but due to underground labor shortages, ore extraction averaged less than provided for by the expansion in mining operations accomplished in the first part of the war. In the late months of the year the Isle Royale mine operated under the Premium Price Plan following termination of the special-price contract. Operation was possible because of the abandonment of all development work, of using more men on production, and of working the richer part of the ore reserves.

Montana.--Production of copper in Montana in 1945 declined 23 percent from 1944 and was the smallest since 1938; the State, however, continued to be the third most important in the United States. About 95 percent of the State total was derived from copper ore, old tailings, and precipitates from properties of the Anaconda Copper Mining Co. at Butte and Anaconda; the remainder was recovered mostly from the North Butte mine also at Butte. There was a marked decrease in the tonnage of waste material and crude mine ore treated at the Anaconda reduction works in 1945; other than crude mine ore, the material consisted principally of reduction works sand tailings, Butte and Boston slime mine dumps and old tailings, Parrot and Colorado tailings, High ore dump, special exploration ore, and special waste, all from properties owned or controlled by the Anaconda Copper Mining Co.

Nevada.--Nevada copper production in 1945 continued the decline in effect since the all-time record of 1942. The decrease in copper production was distributed among the principal producers. Over one-half of the State total came from the Kennecott Copper Corp. (Nevada Mines Division) which worked the Copper Flat open pit and the Ruth mine, Robinson district, White Pine County, throughout the year. The second largest producer was the nearby Consolidated Coppermines Corp.

These two companies and the Mountain City Copper Mining Co., which worked the Rio Tinto mine, Cope district, Elko County, produced over 96 percent of the total for the State in 1945. A smaller output was reported for the Copper Canyon operation of the International Smelting and Refining Co., Battle Mountain district, Lander County.

New Mexico.—Copper production in New Mexico dropped 19 percent in 1945. By far the largest producer in the State was the Kennecott Copper Corp. (Chino Mines Division), Santa Rita, Grant County, and other producers included the Bonney mine of the Banner Mining Co., south of Lordsburg, Hidalgo County and the Burro Mountain group of the Phelps Dodge Corp., at Tyrone, Grant County.

Utah.—Utah is second only to Arizona as a copper-producing State and the output of Utah's principal copper district—Bingham Canyon (West Mountain)—is second to no other in the country. The Utah Copper mine in the Bingham district is preeminent among the copper-producing mines of the country. Production of 227,500 tons of copper in Utah in 1945 was 19 percent less than in 1944. The greatest drop was in production at the Utah Copper mine although all of the principal copper-producing operations in the State, except the Big Indian property in San Juan County, had smaller outputs in 1945 than in 1944. Producers of over a million pounds of copper, other than the Utah Copper mine, were the National Tunnel & Mines Co. property, the Columbia group of the Ohio Copper Co. and the United States and Lark property, all in the Bingham district, and the Big Indian property of the Ohio Copper Co. in the La Sal district. These five properties supplied 99 percent of the total output of copper for the State. A total of about 24,055,000 tons of copper ore was treated in 1945 compared with 29,930,659 tons in 1944.

Washington.—Copper production in Washington decreased again in 1945, marking a continuation of the decline in progress since 1940. As in former years virtually the entire copper output came from zinc-copper ore of the Holden property of the Howe Sound Co. in Chelan County.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

HAROLD L. ICKES, Secretary
R. R. SAYERS, Director

For Release January 30, 1946.

MINERAL MARKET REPORT
MMS NO. 1381

MINE PRODUCTION OF GOLD IN THE UNITED STATES, 1945 - PRELIMINARY ANNUAL FIGURES

There was a sharp upswing in production of gold in the United States in 1945 in States that produce most of their gold from gravels or straight gold ores, although the declining output of byproduct gold from base metal districts more than offset the upward trend, according to the Bureau of Mines, United Stated Department of the Interior; a drop of 3 percent in the overall total took place. The rescinding of War Production Board Order L-208, effective July 1, 1945, resulted in noteworthy gains in output in the latter part of the year in Alaska, California and South Dakota. Monthly production rates almost doubled in California, rose five times in Alaska and from nothing to over 8,000 ounces in South Dakota. Most other gold-producing areas registered virtually no gains by the end of the year although plans were in progress for opening a number of properties. The continued labor shortage and the difficulty in obtaining needed equipment retarded the return to normal gold mining activity throughout the country, but a slight improvement in labor supply was noted in some areas at the year end.

Utah, where gold is recovered as a byproduct of copper mining, continued to be the leading gold-producing State in 1945 although California, which ranked second, was producing more metal than any other State at the end of the year. Output in Utah declined 20 percent but in California output rose 47 percent. Nevada, which ranked third and where half of the total gold was from copper ores, had a 15 percent drop in gold production. In the other most important gold-producing areas output in Colorado declined 10 percent and in Arizona 33 percent, but that in Alaska rose 39 percent. At the end of the year Alaska probably ranked second and South Dakota third in gold production.

The following table and summary of State reviews for 1945 were obtained from current preliminary reports of the western field offices of the Bureau of Mines.

Alaska.--Alaskan gold production rose 39 percent in 1945 despite the fact that the lifting of the gold order (L-208) came too late in the season to permit most gold mining operators in the territory to resume production in that year. A great number of operators, however, made extensive preparations in anticipation of full-season activity in 1946. The territory ranked sixth in production of gold in 1945. The more important producers of gold from lode mines were the Cleary Hill Mines, Inc., operating the Cleary Hill mine and amalgamation-flotation mill in the Fairbanks district; the Alaska-Pacific Consolidated Mining Co., operating its

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Prepared by Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Mine production of gold in the United States, 1944-45, in terms of recoverable gold, in fine ounces

Region and State	1944	1945
Eastern States:		
Alabama	-	5
Georgia	5	-
North Carolina	21	-
Pennsylvania	2,115	1,655
Tennessee	222	240
Vermont	100	91
Virginia	132	9
	2,595	2,000
Western States and Alaska:		
Alaska	49,296	68,588
Arizona	112,162	75,000
California	117,373	172,100
Colorado	111,455	99,811
Idaho	25,008	21,000
Montana	50,021	45,500
Nevada	119,056	101,500
New Mexico	6,918	5,111
Oregon	1,369	4,600
South Dakota	11,621	40,253
Utah	344,223	274,500
Washington	47,277	57,500
Wyoming	20	2
	995,799	965,465
Total	998,394	967,465

Independence and Free Gold Mines in the Willow Creek district; and the LeRoy Mining Co., operating the LeRoy mine in the Juneau district. The Alaska Juneau mine was inactive during the year although several clean-ups of the mill were made and the material was shipped to the Seattle Assay Office and the Selby (Calif.) smelter.

Among the more important producers of gold from placer operations were: The United States Smelting, Refining & Mining Co., which operated two dredges (non-concurrently) in the Fairbanks district; the Arctic Circle Exploration, Inc., operating a dredge on Candle Creek in the Fairhaven district; the New York Alaska Gold Dredging Co., operating one of its two dredges on Upper Tuluksak River in the Tuluksak-Aniak district; Gold Placers, Inc., operating a dredge on Coal Creek in the Circle district; and Uotila & Hard, operating a dragline dredge on a group of claims in the Innoko district.

Arizona.--The marked decrease in production of gold in Arizona in 1945 was due to the substantial reduction in production of copper ore, the chief source of gold in the State. All seven large copper-producing districts shared in the lower output of copper ore. Gold from zinc-lead ore, on the other hand, gained in 1945. The largest producers of gold in 1945 were the New Cornelia, Copper Queen, United Verde, Iron King, Morenci, Magma, and Denn mines and these properties supplied 91 percent of the State total. The Ajo district ranked first in the State with 24,500 ounces (a decrease of 4,520 from 1944) but the Warren (Bisbee) district, which ranked second with 17,000 ounces, was responsible for the chief decrease (21,401 ounces or more than half of the total for Warren in 1944). Other most-important producing districts in 1945 were the Verde (8,600 ounces), the Big Bug (8,000), the Pioneer (5,600) and the Copper Mountain (Morenci) (5,250). The Big Bug district was the only one of the foregoing to show an increase (2,591 ounces).

California.--California was one of the few areas where the revocation of the Order L-208, that limited gold production, was accompanied by an almost immediate upswing in production. Total production for 1945 was 47 percent above that for 1944, but amounted to only 12 percent of the total for 1940, the recent peak year. Production in November was virtually double the rate that prevailed before the order was rescinded. The end of the Japanese phase of the war and the moderate improvement in the labor supply at the end of the year are credited with having had an influence on the upswing. Based on somewhat incomplete data it is estimated that 60 percent of the 1945 total was produced by placer mines and 40 percent by lode mines, compared with a placer-lode ratio of 64 percent to 36 percent in 1944. The major part of the placer production in 1945 came from connected-bucket dredges, the number in operation having increased markedly by the end of 1945 owing to the lifting of L-208. The Yuba Consolidated Gold Fields operated four or its fleet of six dredges in the Yuba River district, Yuba County, in 1945 and the Natomas Co. which has a fleet of seven dredges in the Folson district, Sacramento County, operated five during 1945. Other dredging operations included the Gold Hill Dredging Co., on the Mokelumne River, Camanche district, San Joaquin County and in Butte County; the Merced Dredging Co., Merced County; Capital Dredging Co. and the Lancha Plana Gold Dredging Co., Sacramento County; French Gulch Dredging Co., and Thurman Gold Dredging Co., Shasta County; Yuba Gold Dredging Co., Siskiyou County; the La Grange Gold Dredging Co., and the Tuolumne Gold Dredging Co., Stanislaus County; and the Junction City Mining Co., Trinity County. The Goldfield Consolidated Mines Co. carried on the State's only large hydraulic operation in 1945 at the Oak Hill mine, Junction City district, Trinity County. The expansion of gold production at lode mines was substantially aided by

War Production Board grants permitting limited operation in 1945 at a few of the larger properties before the recision of L-208. Preliminary figures indicate that more than 80 percent of the lode gold came from gold ores in 1945. About two-thirds of the gold from gold ore produced in California in 1945 was mined in the Grass Valley-Nevada City district, Nevada County, almost entirely by the Empire Star Mines Co., Ltd., and the Idaho Maryland Mines Corp. In the Mother Lode Counties, the larger shipments of gold derived from gold ore were made by the Mount Gaines Mining Co., Hunter Valley district, Mariposa County; Eagle Shawmut mine, Mother Lode district, Tuolumne County; and Schroeder, Odgers, and Schroeder, East Belt district, Mariposa County.

Colorado.--Gold production in Colorado dropped 10 percent in 1945 as compared with 1944. Mines in the Cripple Creek district in 1945 continued the major source of gold in Colorado, although the output was the smallest since 1892 (the district was discovered in 1891). The bulk of the district's output came from the Ajax and Vindicator mines, operated by the Golden Cycle Corp., the Portland mine operated by the United Gold Mines Co., the Stratton Estate group of mines operated by lessees, and the Le Clair mine operated chiefly by the Greenwood Leasing Co. Other important gold-producing counties in Colorado in 1945 were the San Juan, San Miguel and Lake, each of which produced more than 13,000 ounces, but all produced less than in 1944.

Eastern States.--All but 5 ounces of the total of 2,000 ounces of gold produced in the Eastern States was from byproduct operations; 83 percent was from iron (magnetite-pyrite-chalcopyrite) ore from Pennsylvania, nearly 17 percent from copper-iron and copper ores from Tennessee and Vermont, and the remainder (14 ounces) from zinc-lead and gold ores from Virginia and Alabama, respectively.

Idaho.--Production of gold in Idaho declined 16 percent in 1945 owing mainly to the suspension November 1, 1945, of the treatment of gold ore from the Boise-Rochester-Monarch group at Atlanta by the Talache Mines Co. About 80 percent of the gold produced in Idaho in 1945 was recovered from gold-tungsten-antimony ore from the Yellow Pine mine at Stibnite, zinc-lead ore from the Triumph property near Hailey, zinc-lead ore from various mines in the Coeur d'Alene region, and bucket dredging in Boise County. Gold lode mines produced 18,300 ounces in 1945 compared with 24,872 in 1944 and placers recovered 2,700 compared with 136 in the two periods. Rescinding of the gold order (L-208) resulted in the resumption (in October) of bucket dredging at the placer property of the Idaho-Canadian Dredging Co., Idaho City, Boise County.

Montana.--Gold production in Montana, largely byproduct to base metals or other strategic minerals in both years, declined 9 percent in 1945 as compared with 1944. The drop in 1945 was owing to the smaller output from the Anaconda Copper Mining Co. copper-producing operations, a greatly reduced output of gold from the Estelle mine in Park County, the Golden Sunlight mine in Jefferson County, and the Boaz mine in Madison County, and the suspension in June 1944 of bucket dredging at the Eldorado Bar in Lewis and Clark County. Lode mines produced 36,500 ounces of gold in 1945 compared with 43,798 in 1944 and placer operations contributed 9,000 and 6,223 ounces, respectively. The Anaconda Copper Mining Co. was the largest producer of lode gold and other leading producers were the Jardine Mining Co. at Jardine, the Golden Sunlight mine near Whitehall, the Granite-Bimetallic tailings at Philipsburg, the U. S. Grant mine at Virginia City, and the McLaren Gold Mines at Cook City. Of the placer output 94 percent was produced by the H. & H. Mines, on Henderson Creek in Granite County, and Porter Brothers Corp., which resumed bucket dredging on Last Chance Gulch in Lewis and Clark County in July.

Nevada.--Gold production in Nevada dropped 15 percent in 1945. Of the 1945 total 90 percent was produced at lode mines and 10 percent at placer operations, compared with 94 and 6 percent, respectively, in 1944. In both years one-half of the State total was derived from copper ores. Gold ores yielded over one quarter of the 1945 production compared with 42 percent in 1944. Most of the remaining gold in 1945 was derived from lead-zinc ore though contributions were made by gold-silver, lead, silver, and other ores. The Kennecott Copper Corp. (Nevada Mines Division) was the leading gold producer in Nevada in 1945 and the recovery was from copper ores. Another copper producer, the Consolidated Coppermines Corp., ranked second, and the Manhattan Gold Dredging Co. boosted its output to take third place.

New Mexico.--New Mexico had a drop of 26 percent in production of gold in 1945.

Oregon.--Gold production in Oregon in 1945 though more than 3 times that in 1944 was only 4 percent of the record production of 113,402 ounces in 1940. The gain in 1945 was a direct result of the withdrawal of the gold order, L-208.

South Dakota.--South Dakota was one of the three areas in the country where gold production made sharp gains in the latter part of 1945, following the rescinding of Order L-208. Production for the year gained 246 percent as compared with 1944. The monthly production rose from none in the first half of the year to over 8,000 ounces at the year end. The Homestake Mining Co., normally the largest producer of gold in the United States, was one of the few idle gold mines in the country able to take immediate advantage of the lifting of the ban on gold mining. The labor supply at Lead, South Dakota, was adequate to start operations and the company expects to reach near-normal production in 1946.

Utah.--Utah was again the largest gold-producing State but the opening of gold mines in the latter part of the year, following the revocation of the Order (L-208), foretold that this preeminent position would be relinquished in 1946. A total of 274,500 ounces was recovered, or 20 percent less than in 1944. Gold is produced in Utah chiefly as a byproduct of copper ore and zinc-lead ore; these ores contributed 83 percent of the output in 1945 and siliceous ores most of the remainder. The Bingham district, by far the most important gold-producing area in Utah and in the United States in 1945, produced 246,600 ounces in that year or 21 percent less than in 1944. All of the major gold producers in the area shared in the drop. This district was followed in importance in Utah by the Park City Region and the Tintic district, which produced 14,200 and 10,212 ounces, respectively.

Washington.--Gold production gained in Washington in 1945, against the trend in most areas, owing to the increase in the average gold content of zinc-copper ore mined from the Holden property by the Howe Sound Co. This company increased its output of gold more than 51 percent and remained the largest gold producer in the State with Knob Hill Mines, Inc. the only other large gold producer. The latter company treated less gold ore in its cyanidation-concentration mill in 1945 than in 1944 and the output of gold decreased more than 2,000 ounces. The two properties supplied 97 percent of the Washington State total.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

HAROLD L. ICKES, Secretary R. R. SAYERS, Director

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For release January 28, 1946.

MINERAL MARKET REPORTS
M. M. S. NO. 1382

LEAD INDUSTRY IN 1945 - PRELIMINARY

The supply of refined lead available for consumption continued to decrease in 1945, according to the Bureau of Mines, United States Department of the Interior. Although refinery output remained approximately unchanged, domestic mine production, Government stocks, imports of lead-bearing materials, and exports of pig lead declined in 1945. Because of a supply which was considerably below demand, the Government continued to restrict consumption through provisions of War Production Board General Preference Order M-38. The ceiling price of 6.50 cents per pound for lead at New York remained unchanged throughout 1945, and payments under the Premium Price Plan continued to be made by the Metals Reserve Company.

Production. - Preliminary data based on reports from producers covering eleven months actual output plus an estimate for December indicate that 477,500 short tons of refined lead and 51,600 tons of antimonial lead were produced at primary refineries in 1945. Refined lead output was virtually the same as in 1944; antimonial lead production decreased 11 percent compared with the 1944 output. It is estimated from incomplete data that 382,000 tons were produced from domestic ores and base bullion, an indicated decline of 3 percent from 1944, and the smallest output since 1938. The decline was largely a result of the critical shortage of manpower, particularly at the mines.

Preliminary estimates of mine production in the United States and Alaska in 1945 indicate an output of 387,942 tons of recoverable lead, a decrease of 7 percent from 1944.

The quantity of antimony contained in antimonial lead produced in 1945 dropped to 7.4 percent. Although sufficient data to explain the decrease is not available, the compilation of final statistics on consumption will likely indicate that greater quantities of low-percentage alloys were used in such items as type metal, cable covering, sheet and pipe, and collapsible tubes and foil.

Statistics on production of refined and antimonial lead in 1945 as compared with 1944 are given in tables 1 and 2.

Prepared by Richard H. Mote, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Stocks. - Producers' stocks of refined lead (table 3) increased 126 percent according to data obtained in the Bureau of Mines preliminary annual survey of primary smelters and refineries. Inventories of antimonial lead (in terms of lead content) increased 132 percent. Government-owned stocks within the continental United States, mostly of corroding grade, declined from 90,454 tons on January 1 to 68,700 tons on December 31, a drop of 24 percent, according to information compiled by the Tin-Lead-Zinc Division of the Civilian Production Administration (successor November 3 to the War Production Board).

Foreign trade. - Import-export data, as reported by the Department of Commerce, are shown in table 4. Over 70 percent of the total pig lead imported came from Mexico, the remainder came from Peru, Canada, and Australia. Imports of lead in base bullion, all from Mexico, dropped to 8 tons in 1945. Receipts of lead in ore and matte, principally from Australia, Peru, Newfoundland, and Canada, declined 33 percent. Total exports of pig lead (excluding re-exports of foreign refined lead) in 1945 dropped to 9 percent of the 1944 total due almost entirely to the sharp decline in shipments to the Union of Soviet Socialist Republics.

Consumption. - In 1945 the calculated supply of refined lead (table 5) made available for shipment from primary refineries to consumers (a close measure of consumption) amounted to approximately 706,900 tons, a 10-percent decrease from the comparable figure of 786,463 tons in 1944.

Lead continued under Government control during 1945, through the provisions of the War Production Board General Preference Order M-38. In operation the order prohibited the use of lead for certain purposes and permitted all essential uses to function free of control. Several amendments were issued during the year lowering and, in some instances, raising the quotas of lead permissible for certain industrial uses.

Price. - The ceiling price for common lead at New York remained at 6.50 cents per pound throughout 1945. Subsidy payments under the Premium Price Plan for over-quota production continued to be paid to domestic mine operators.

Table 1. - Refined lead produced at primary refineries
in the United States, 1944-1945, in short tons

Year	From domestic ores and base bullion	From foreign ores and base bullion	From scrap	Total
1944....................	394,443	70,320	11,368	476,131
1945 (preliminary)......	1/382,000	2/	2/	477,500

1/ Estimate.
2/ Sufficient data not yet available.

Table 2. - Antimonial lead produced at primary lead refineries in the United States, in 1944 and 1945, in short tons

Year	Production	Antimony content		Lead content (by difference)			
		Weight	Percent	From domestic ore	From foreign ore	From scrap	Total
1944...	57,902	4,670	8.1	13,280	5,477	34,475	53,232
1945 1/	51,600	3,800	7.4	2/	2/	2/	47,800

1/ Preliminary.
2/ Data not yet available.

Table 3. - Stocks of lead on hand at primary lead refineries in the United States at the end of 1944 and 1945, in short tons

Date	Refined lead	Antimonial lead 1/
December 31, 1944....	16,788	3,615
December 31, 1945....	38,000	8,400

1/ Lead content.

Table 4. - Imports and exports of lead in 1944 and 1945, in short tons

Year	Imports			Exports
	Lead in ore and matte	Lead in base bullion	Pigs and bars	Pigs and bars
1944............	95,216	58	222,758	15,523
1945 1/.........	64,000	2/ 8	230,000	1,400

1/ Estimate based on 11 months' data.
2/ Actual figure for 11 months.

Table 5. - Refined lead available for shipment to consumers, 1944 and 1945, in short tons

	1944	1945 (preliminary)
Supply: Stocks at primary refineries Jan. 1	36,464	16,788
Government-owned stocks on Jan. 1..	173,875	90,454
Production at primary refineries...	1/476,131	1/477,500
Imports............................	222,758	2/230,000
Total available...................	909,228	3/815,000
Withdrawn:		
Stocks at primary refineries on Dec. 31........................	16,788	38,000
Government-owned stocks on Dec. 31.	90,454	68,700
Exports............................	15,523	2/ 1,400
Total withdrawn................	122,765	108,100
Apparent shipments to domestic consumers....	1/786,463	1/706,900

1/ Includes an undetermined tonnage of secondary lead produced from scrap at primary refineries in 1945. The 1944 total amounted to 11,368 tons.
2/ Estimate based on 11 months' data, January through November, and an estimate for December.
3/ Rounded figure.

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MINERAL INDUSTRY SURVEYS
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
HAROLD L. ICKES, Secretary
R. R. SAYERS, Director

FEB 2

For release January 28, 1946.

MINERAL MARKET REPORT
MMS No. 1383.

MINE PRODUCTION OF SILVER IN THE UNITED STATES IN 1945 - PRELIMINARY ANNUAL FIGURES

Production of recoverable silver from mines in the United States in 1945 declined 17 percent from 1944, was the smallest since 1934, and amounted to only 40 percent of the output in 1940, according to the Bureau of Mines, United States Department of the Interior. The recovery of silver was again largely as a byproduct of the mining of base metal ores. Of the five leading silver-producing States, decreases in outputs in three--Montana, Utah, and Arizona--were caused chiefly by declines in quantities of copper ores and tailings treated; the drops in these States were 12, 20, and 24 percent, respectively. Output in Idaho, again the most important silver State, declined 21 percent mainly because of substantial decreases in output of silver and lead-silver ores. Colorado, where production was largely from dry and siliceous ores, had the smallest drop of the leading producing States, or 3 percent. California was one of the few States to register a gain, 22 percent, and nearly one-half of the output in this State was from argentiferous lead ores.

The following table and summary of State reviews for 1945 were obtained from current preliminary reports of the Western field offices of the Bureau of Mines.

Arizona. - Silver production in Arizona in 1945 declined 24 percent, as compared with 1944, chiefly because of the smaller output of copper ore, the principal source of silver in the State. About 77 percent of the State total came from the Copper Queen, United Verde, New Cornelia and Morenci mines of the Phelps Dodge Corp. and the Iron King and Magma mines. Output of silver in the Warren district, the principal silver-producing one, dropped from 1,550,506 ounces in 1944 to about 1,066,000 ounces in 1945; the Verde district, from 589,538 to 485,000; the Ajo district, from 319,320 to 285,000 and the Pioneer (Superior) district, from 386,429 to 250,000. Silver output from the Copper Mountain (Morenci) district was about the same in 1945 as in 1944 (281,153 ounces) but that from the Big Bug district increased from 229,490 to 310,000 ounces.

California. - California silver production in 1945 was 22 percent higher than in 1944; it was one of the few areas in the country to expand its output. Nearly one-half of the 1945 silver production was derived from argentiferous lead ores. The principal producers were the Anaconda Copper Mining Co. (Darwin Mines prior to August 1945), which operated a group of mines in the Darwin section of the Coso district, Inyo County, and the Finley Co. (Shoshone Division) which operated the Columbia No. 2 mine (operated by Shoshone Mines, Inc., prior to May 1945), Resting Springs district, Inyo County. Much of the remainder of California silver output in 1945 was produced from other base metal ores including copper-zinc, zinc, tungsten, lead-zinc, and copper ores.

Prepared by Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Mine production of silver in the United States, 1944-45, in terms of recoverable silver, in fine ounces

	1944	1945
Eastern States:		
Alabama	-	1
New York	25,238	14,663
North Carolina	1,461	-
Pennsylvania	13,545	10,900
Tennessee	45,907	52,089
Vermont	18,862	18,069
Virginia	18,993	1,246
	124,006	96,968
Central States:		
Illinois	2,437	1,748
Michigan	54,218	23,774
Missouri	92,243	94,905
	148,898	120,427
Western States and Alaska:		
Alaska	13,362	9,225
Arizona	4,394,039	3,357,000
California	778,936	949,200
Colorado	2,248,830	2,178,675
Idaho	9,931,614	7,857,000
Montana	7,093,215	6,219,000
Nevada	1,259,636	990,800
New Mexico	535,275	481,251
Oregon	20,243	10,700
South Dakota	5,445	20,205
Texas	5,355	21,330
Utah	7,593,075	6,057,000
Washington	321,608	279,000
Wyoming	3	31
	34,200,636	28,430,417
Total	34,473,540	28,647,812

Central States. - Silver is a minor constituent of Central States ores and production in 1945 was entirely byproduct. Of the 1945 total, 79 percent was from Southeastern Missouri lead and lead-copper-cobalt-nickel ores, 20 percent from Michigan copper ores and the remainder from Southern Illinois zinc-lead-fluorspar ore.

Colorado. - Colorado ranked fifth among the silver-producing States in 1945 with an output that declined 3 percent or proportionately less than the other four leaders or the country as a whole. As a source of silver production Lake County ranked first in the State, having stood second in 1944, and was followed in rank by Mineral County (first in 1944), San Juan, San Miguel, Ouray, Dolores, and Clear Creek. Each of the counties listed produced over 100,000 ounces of silver in 1945. In 1944 Clear Creek's production failed by a narrow margin to reach 100,000 ounces, but in that year Eagle and Pitkin Counties had outputs of over 100,000 ounces each.

Eastern States. - Of the output of 96,968 ounces of silver in the Eastern States in 1945, 73 percent was recovered from copper and copper-iron ore from Tennessee, Vermont and Virginia, 16 percent from zinc-lead ore from New York and Virginia, 11 percent from magnetite-pyrite-chalcopyrite ore from Pennsylvania and 1 ounce from gold ore from Alabama.

Idaho. - Idaho again ranked first in production of silver in 1945; it produced 26 percent more silver than Montana which stood second. Production dropped 21 percent in 1945, however, owing chiefly to substantial decreases in output of silver ore and lead-silver ore from the Sunshine, Polaris, the Mineral Point (Coeur d'Alene Mines Corp.) and in zinc-lead ore from the Bunker Hill & Sullivan, Page, Triumph, Hecla, Clayton, Tamarack & Custer, Morning, and Star Mines; a marked increase in output of silver, however, was made from treating old tailings from the Osburn dump. About 44 percent of the State output of silver in 1945 was recovered from zinc-lead ore and old tailings, and the remainder largely from lead ore and silver ore.

Montana. - The output of recoverable silver in Montana again showed a substantial decrease from the previous year--874,215 ounces or 12 percent. Most of the decrease resulted from a much smaller output of silver from the Anaconda Copper Mining Co. copper-producing operations at Butte and Anaconda; however, the company supplied 81 percent of the total output of silver for the State. Other important sources of silver included the Granite-Bimetallic tailings at Philipsburg, the North Butte Mining Co. operation at Butte, byproduct silver from the Emma mine at Butte, the Mike Horse mine near Flesher, and the Elkhorn dump at Elkhorn. About 77 percent of the State total was derived from copper ores and tailings, 10 percent from zinc-lead, zinc, and lead ores, and the remainder principally from siliceous ores.

Nevada. - Approximately 90 percent of Nevada's silver production in 1945 was recovered from base metal ores. Somewhat less than half was derived from lead-zinc ore, and smaller quantities came from copper, lead, and gold-silver ores. Total production for the State was 21 percent less than in 1944.

New Mexico. - New Mexico produced 10 percent less silver in 1945 than in 1944. The Central district was the chief source of silver in the State. The marketing of most of the copper output of the Kennecott Copper Corp. (Chino Mines Division) in fire refined rather than electrolytic form in recent years has reduced the potential output of silver from the Central district.

Utah. - The production of 6,057,000 ounces of silver in Utah in 1945 marked a decline of 20 percent from 1944; the three principal silver-producing districts shared in the drop. The Bingham district produced 3,555,786 ounces (24 percent less than in 1944); the Tintic, 1,063,170 ounces (1 percent less) and the Park City region, 1,043,000 ounces (27 percent less). The drop in the Bingham district was caused by smaller outputs by the two leading silver-producing mines--the Utah Copper and the United States and Lark properties. The relatively small decline in the Tintic district resulted when the decrease in output from the Harold dump more than offset substantial increases from the Tintic Standard and Chief Consolidated properties. Each of the three principal producers in the Park City region (the Park Utah Consolidated, Silver King Coalition, and New Park) shared in the drop for the region as a whole. Preliminary calculations show that zinc-lead, zinc ore, and lead ore supplied 50 percent of the total State output of silver; copper ore, 33 percent and siliceous ores the remainder. The Utah Copper Co. was again the principal producer of silver in the State, but output at this company's property dropped about 480,000 ounces owing to a decline in output of copper ore. Output at the United States and Lark mine, which ranked second in Utah, decreased about 540,000 ounces, resulting from a smaller output of zinc-lead ore.

Washington. - Production of silver in Washington declined 13 percent in 1945. The Howe Sound Co. was the largest producer in the State followed by the Knob Hill Mines, Inc. Production of the Kaaba-Texas Mining Co. in Okanogan County, which ranked third in 1945, was only one-half of that in 1944. The three properties accounted for 91 percent of the total for the State.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

HAROLD L. ICKES, Secretary
R. R. SAYERS, Director

FEBRUARY 1946

MINERAL MARKET REPORT
M. M. S. No. 1384

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UNIVERSITY OF ILLINOIS

BITUMINOUS COAL DISTRIBUTION

COAL YEAR 1944-45

Prepared by Economic Analysis Section, Coal Economics Division, Economics and Statistics Branch, Bureau of Mines, in cooperation with the Solid Fuels Administration for War.

BITUMINOUS COAL DISTRIBUTION, COAL YEAR 1944-45

The following tables, covering the coal year ended March 31, 1945, have been compiled from reports rendered by producers of bituminous coal and lignite for each mine producing an average of 50 tons or more per day, or mines having direct rail or river shipping facilities regardless of tonnage produced, dock operators, and transshippers of coal moving via the Great Lakes and tidewater, pursuant to Solid Fuels Administration for War Order No. 3 and Amendment No. 1 thereto. Under that order, producers file monthly reports on Form S.F.A. No. 38 for bituminous coal and Form S.F.A. No. 56 (North Dakota, South Dakota, and Texas) for lignite, showing production and distribution of coal from each mine producing an average of 50 tons per day or more, or having direct rail or river shipping facilities, regardless of tonnage produced, identified by States and market areas of destination, uses, sizes, and methods of movement. Dock operators file similar distribution information monthly on Form S.F.A. No. 48 with respect to coal shipped from the docks. All persons ordering or directing the transshipment of coal at Lake or tidewater dumping piers file cargo manifests, invoices, summary reports, or other documents covering the movement of coal from the port of dumping to the port of receipt.

The data submitted in these tables have been abstracted from mechanical tabulations of the reports that have been rendered by the parties described and include such tonnages as were reported at the time the tabulations were closed. They have a coverage representing 94.3 percent of the total production. Production and distribution data not accounted for in the tables originate at mines with an average of less than 50 tons daily production, which have no direct rail or river shipping facilities, and from which reports are not required, together with tonnages from certain large mines and docks delinquent in filing.

It will be noted that certain tonnages described as "unknown" and "not reported" appear throughout the tables. These items represent the accumulation of tonnages for which respondents failed to report pertinent information such as district of origin, State of destination, size group, and use; replies to correspondence requesting such information had not been received at the time the tabulations were prepared.

Tonnages are shown in net tons of 2,000 pounds.

TABLE 1. - DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 AS REPORTED ON FORMS S.F.A. NOS. 38, 48, AND 56, AND CARGO MANIFESTS, INVOICES AND SUMMARY REPORTS

In this table are shown (a) the total production for each producing district as reported on Forms S.F.A. Nos. 38 and 56, and (b) the total shipments to consumers, distributed by States of destination and uses. Destinations are not shown for railroad fuel. Only for byproduct and beehive coke oven and smithing use are destinations reported for truck shipments. The truck tonnages for which destinations were reported are included in the all-rail, river and ex-river data for statistical convenience.

Shipments from each producing district to State of destination and for each use therein are shown for coal moving all-rail, river, and ex-river for all uses except railroad fuel and in the case of coal for coking purposes and for smithing use, for all movements except Lake and tidewater. Following a subtotal of these tonnages, there are shown by producing districts the tonnages of railroad fuel shipments, tidewater and Lake shipments, shipments by truck, shipments to such distributors and wholesalers who failed to furnish information as to the final destination and use, shipments by private railroads, tramways and conveyors, tonnages of coal used in and around the mines (including coal used to produce coal, coal used by mine employees, and coal made into briquets or packaged fuel), other disposals by methods not specifically outlined, net change in mine inventories, and the total production reported.

Item 13 has the estimated residual part of truck production, the product of mines which are not required to report on Forms S.F.A. Nos. 38 and 56, for the coal year 1944-45. These estimates are based on the total production of truck mines during 1944. They represent approximate activity of this class of mine during the coal year. The estimates represent total truck tonnages for 1944 less (a) tonnages included in rail, river, and ex-river movement for shipments by truck to byproduct and beehive coke ovens away from the producing mine and for smithing use, and (b) truck tonnage shown in Item 7.

In order to show the total coal distribution by States of destination by all movements, and by consumer uses, there has been included in this table a summary by States of destinations and uses of waterborne coal moving to consumers via the Great Lakes and tidewater. These data exclude shipments to storage docks that have not been reported as being transshipped to a consumer. As explained in the footnote to this section of the table, the tonnages shown represent the distribution of coal to consumers during the period reported that moved from the mines by Lakes and tidewater. In the final column are shown the tonnages of total shipments by all movements and for all uses. In comparing the grand total arrived at in this column with the grand total of the distribution and production from mines, it must be borne in mind that while the former includes only shipments to consumers during the period, the latter covers Lake and tidewater shipments as reported by producers, including coal in transit to and at the dumping piers, that delivered to storage docks, and coal moving to inland storage piles.

Certain transshippers are delinquent in filing data required, particularly with respect to movements of coal for account of Canadian distributors who themselves arrange for transshipment. The total reported shipments of bituminous coal to Canada during the coal year 1944-45, including railroad fuel, was 21,496,000 tons and accounts for 91.4 percent of the grand total shipments to Canada. Reported shipments of railroad fuel to Canada are included in Item 4, "Railroad Fuel."

Detailed breakdowns of the Lake and tidewater shipments are shown in Tables 2 and 3.

TABLE 2. - SHIPMENTS OF BITUMINOUS COAL VIA TIDEWATER TO ALONGSIDE CONSUMERS AND EX-DOCK SHIPMENTS FROM COMMERCIAL DOCKS AS REPORTED ON CARGO MANIFESTS, INVOICES, SUMMARY REPORTS AND FORM S.F.A. NO. 48 DURING THE YEAR ENDED MARCH 31, 1945, BY DISTRICT OF ORIGIN, STATE OF DESTINATION AND USE

This table provides the distribution of tidewater interport shipments to alongside consumers, by district of origin, State of destination, and use within the State. There are also shown the tonnages of coal moving off the commercial tidewater docks, by State of destination and by use. It is not possible, as a rule, to secure the district of origin on these ex-dock coals, and, therefore, they are shown only in total. The data represent the distribution of coal that moved from the mines via tidewater during the coal year to the State of consumption and by uses.

Following the detailed State analyses are the tonnages that moved for railroad fuel, bunker fuel, and export overseas, by district of origin, for alongside purchasers and total shipments ex-dock.

TABLE 3. - SHIPMENTS OF BITUMINOUS COAL VIA THE GREAT LAKES TO ALONGSIDE CONSUMERS AND EX-DOCK SHIPMENTS FROM COMMERCIAL DOCKS AS REPORTED ON CARGO MANIFESTS, INVOICES, SUMMARY REPORTS AND FORM S.F.A. NO. 48 DURING THE YEAR ENDED MARCH 31, 1945, BY DISTRICT OF ORIGIN, STATE OF DESTINATION AND USE

Here is listed the distribution of Great Lakes interport shipments to alongside consumers, by district of origin, State of destination, and use. There are also shown the tonnages of coal moving off the Upper Lakes commercial docks, by State of destination and use. As in the case of shipments from the tidewater docks, it is not possible, as a rule, to secure the district of origin on the ex-dock coals, and, therefore, they are shown in total only. The data represent the distribution of coal that moved from the mines via the Great Lakes during the coal year to the State of consumption and by uses.

Following the detailed State analyses and the United States total are the tonnages that moved to Canada. The total reported interport movement for storage or consignment is shown for the reason that Canadian dock operators are not required and do not file reports of ex-dock shipments from commercial docks.

To complete the analysis of the total reported shipments, railroad and Lake vessel fuels are shown.

TABLE 4. - SHIPMENTS OF BITUMINOUS COAL AND LIGNITE DURING THE YEAR ENDED MARCH 31, 1945, BY DISTRICT OF ORIGIN, USE, CONSOLIDATED SIZE GROUP, AND METHOD OF MOVEMENT, AS REPORTED ON FORMS S.F.A. NOS. 38, 48, AND 56, AND CARGO MANIFESTS, INVOICES, AND SUMMARY REPORTS

For each producing district, there are indicated the total reported shipments and transshipments, by consolidated size groups, methods of movement, and consumer uses. Due to the fact that the district of origin of shipments off the docks on the Upper Lakes and Seaboard are not ascertainable, these tonnages are shown in total only for the Great Lakes and tidewater groups.

The five basic size groups for all movements and uses except the Great Lakes and tidewater ex-dock shipments are identical to those described below as being applicable in Table 6. In the case of Lake and tidewater ex-dock shipments, block, lump, egg, and stove sizes are included in Group 1; nut, pea, and stoker (including all coal shipped from the mine as stoker as well as dock-made stoker sizes) in Group 2; run of pile (including all coal except screenings and stoker which are loaded without rescreening) in Group 3; and screenings (including all resultants from screenings on the docks as well as screenings shipped as such from the mines) in Group 4. With no break reported as to sizes of screenings shipped ex-dock, the total tonnage of all screenings is reported in Group 4.

Consumer uses (other than byproduct and beehive coke oven coal trucked away from the producing mine, and smithing) are not reported for truck shipments or other disposals not specified, and, therefore, are shown only in total for the district. Coal used at the mines and the net changes in inventories are also shown in total in order to complete the analysis of the total tonnage reported by district of origin.

TABLE 5. - RECAPITULATION OF THE DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945, AS REPORTED ON FORMS S.F.A. NOS. 38 AND 56, BY DISTRICT OF ORIGIN, METHOD OF MOVEMENT, AND/OR USE

This table includes the summaries of the tonnages for each producing district by methods of movements and by uses as reported by the producers. The ratio of the coverage of the total for each district as compared with the production (final for the last nine months of 1944 as reported in M.M.S. No. 1359 and preliminary for January through March 1945 as reported in Weekly Coal Report No. 1453 of May 26, 1945) is also shown at the foot of the table.

TABLE 6. - PRODUCTION OF BITUMINOUS COAL AND LIGNITE BY CONSOLIDATED SIZE GROUPS DURING THE YEAR ENDED MARCH 31, 1945 AS REPORTED ON FORMS S.F.A. NOS. 38 AND 56

This table shows for each producing district the total tonnages broken down by five basic size groupings as described in the captions of Columns 1 through 5 of the table, by truck mines, for railroad fuel and all other movements and uses as reported on Forms S.F.A. Nos. 38 and 56. These basic groups of sizes follow the general descriptions of the size groups for District No. 1 as set forth in the minimum and maximum price schedules for that district. In the case of basic group 3, domestic mine run, and screened and altered mine run, were included as these descriptions are used in other districts. These added grades of coal, however, do not include any sizes outside the descriptions for Size Group 3 in District No. 1. In basic groups 4 and 5, the only changes made from District 1 descriptions were the inclusion in each group of dedusted screenings which appear in the size group descriptions of certain districts.

In consolidating the size groups for all districts under the five basic groups described in the table, it was found that in some districts the maximum top and bottom size of certain size groups overlapped. In some instances, where the preponderant sizes of the size groups which overlapped were known, it was possible to determine the basic group within which most of the tonnage would fall. In certain instances of overlapping size groups where there was more than one such size which overlapped, the size group was included in the basic group on the basis of the maximum top size.

The sizes shown are those as reported on Forms S.F.A. Nos. 38 and 56 and are the sizes as shipped from the mines.

* * * * *

This publication was prepared by Joseph J. Gallagher and Columbus R. Gentile working under the general direction of Glen L. Parker. The editing of reports filed by producers, transshippers and dock operators and the preparation of basic statistical data was directed by Walter T. Kuzara and Florace C. Scalf under the direct supervision of Mark D. Miller. The analysis for the Bureau was made under the general supervision of T. W. Hunter, Chief, Economic Analysis Section, and W. B. Reed, Chief, Coal Economics Division.

TABLE 1.

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 AS REPORTED ON FORMS S.F.A. NOS. 38, 48 AND 56 AND CARGO MANIFESTS, INVOICES AND SUMMARY REPORTS.

(In Net Tons of 2,000 Pounds)

REGION, STATE, AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. All-Rail, River and Ex-river 1/ (Excluding Railroad Fuel)															
New England															
Connecticut Total	690,721	51,903	268,341	407	-	-	61,465	56,803	-	-	-	-	-	-	-
Industrial	519,614	25,954	161,967	-	-	-	17,026	41,565	-	-	-	-	-	-	-
Retail Yards	170,007	7,520	106,374	467	-	-	43,621	14,644	-	-	-	-	-	-	-
Byproduct and Water-gas	-	18,429	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	1,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	-	-	-	-	-	-	818	594	-	-	-	-	-	-	-
Maine Total	49,959	15,950	78,994	989	-	-	34,413	33,604	-	-	-	-	-	-	-
Industrial	30,606	9,200	42,270	-	-	-	16,297	29,753	-	-	-	-	-	-	-
Retail Yards	18,446	5,751	36,724	989	-	-	18,003	3,336	-	-	-	-	-	-	-
Byproduct and Water-gas	-	999	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	907	-	-	-	-	-	113	-	-	-	-	-	-	-	-
Storage	-	-	-	-	-	-	-	515	-	-	-	-	-	-	-
Massachusetts Total	1,709,977	129,740	552,538	953	-	-	405,120	282,252	-	-	-	-	-	-	-
Industrial	1,321,902	82,534	325,612	-	-	-	103,681	95,971	-	-	-	-	-	-	-
Retail Yards	384,774	26,612	223,232	953	-	-	266,829	97,526	-	-	-	-	-	-	-
Byproduct and Water-gas	-	20,594	3,460	-	-	-	6,812	88,557	-	-	-	-	-	-	-
Smithing	3,301	-	-	-	-	-	59	-	-	-	-	-	-	-	-
Storage	-	-	234	-	-	-	27,739	198	-	-	-	-	-	-	-
New Hampshire Total	250,037	31,547	82,499	97	-	-	37,062	10,514	-	-	-	-	-	-	-
Industrial	179,914	27,046	32,573	-	-	-	27,450	1,801	-	-	-	-	-	-	-
Retail Yards	69,934	3,182	49,817	97	-	-	9,612	8,713	-	-	-	-	-	-	-
Byproduct and Water-gas	-	1,319	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	189	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	-	-	109	-	-	-	-	-	-	-	-	-	-	-	-
Rhode Island Total	69,623	3,788	60,473	268	-	-	49,447	24,319	-	-	-	-	-	-	-
Industrial	61,319	3,493	12,965	-	-	-	33,595	14,533	-	-	-	-	-	-	-
Retail Yards	8,098	295	47,508	268	-	-	15,852	2,339	-	-	-	-	-	-	-
Byproduct and Water-gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	206	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	-	-	-	-	-	-	-	7,447	-	-	-	-	-	-	-
Vermont Total	190,224	12,880	90,510	388	-	1,796	2,627	18,093	-	-	-	-	-	-	-
Industrial	143,499	9,071	69,236	262	-	1,796	-	14,581	-	-	-	-	-	-	-
Retail Yards	46,234	788	21,274	126	-	-	2,627	3,512	-	-	-	-	-	-	-
Byproduct and Water-gas	-	3,021	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	491	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1.

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 AS REPORTED ON FORMS S.F.A. NOS. 38, 48 AND 56 AND CARGO MANIFESTS, INVOICES AND SUMMARY REPORTS.
(In Net Tons of 2,000 Pounds)

REGION, STATE, AND USE	DISTRICT OF ORIGIN								Distribution of Total Production Reported on Forms S.F.A. Nos. 38 and 56	Waterborne Shipments via Lake and Tidewater 2/			Grand Total Distribution
	16	17	18	19	20	21	22	23		Great Lakes	Tidewater	Total	
1. All-Rail, River and Ex-river 1/ (Excluding Railroad Fuel)													
New England													
Connecticut Total	-	-	-	-	-	-	-	-	1,129,700	-	3,061,578	3,061,578	4,191,278
Industrial	-	-	-	-	-	-	-	-	766,126	-	1,889,732	1,889,732	2,655,858
Retail Yards	-	-	-	-	-	-	-	-	342,633	-	564,796	564,796	907,429
Byproduct and Water-gas	-	-	-	-	-	-	-	-	18,429	-	607,050	607,050	625,479
Smithing	-	-	-	-	-	-	-	-	1,100	-	-	-	1,100
Storage	-	-	-	-	-	-	-	-	1,412	-	-	-	1,412
Maine Total	-	-	-	-	-	-	-	-	213,909	-	1,355,928	1,355,928	1,569,837
Industrial	-	-	-	-	-	-	-	-	128,126	-	906,264	906,264	1,034,390
Retail Yards	-	-	-	-	-	-	-	-	83,249	-	447,631	447,631	530,880
Byproduct and Water-gas	-	-	-	-	-	-	-	-	999	-	1,605	1,605	2,604
Smithing	-	-	-	-	-	-	-	-	1,020	-	428	428	1,448
Storage	-	-	-	-	-	-	-	-	515	-	-	-	515
Massachusetts Total	-	-	-	-	-	-	-	-	3,080,580	-	6,905,505	6,905,505	9,986,085
Industrial	-	-	-	-	-	-	-	-	1,929,700	-	3,040,358	3,040,358	4,970,058
Retail Yards	-	-	-	-	-	-	-	-	999,926	-	2,065,380	2,065,380	3,065,306
Byproduct and Water-gas	-	-	-	-	-	-	-	-	119,423	-	1,799,767	1,799,767	1,919,190
Smithing	-	-	-	-	-	-	-	-	3,360	-	-	-	3,360
Storage	-	-	-	-	-	-	-	-	28,171	-	-	-	28,171
New Hampshire Total	-	-	-	-	-	-	-	-	411,756	-	392,169	392,169	803,925
Industrial	-	-	-	-	-	-	-	-	268,784	-	236,162	236,162	504,946
Retail Yards	-	-	-	-	-	-	-	-	141,355	-	155,856	155,856	297,211
Byproduct and Water-gas	-	-	-	-	-	-	-	-	1,319	-	151	151	1,470
Smithing	-	-	-	-	-	-	-	-	189	-	-	-	189
Storage	-	-	-	-	-	-	-	-	109	-	-	-	109
Rhode Island Total	-	-	-	-	-	-	-	-	207,918	-	1,695,625	1,695,625	1,903,543
Industrial	-	-	-	-	-	-	-	-	125,905	-	352,321	352,321	478,226
Retail Yards	-	-	-	-	-	-	-	-	74,360	-	932,327	932,327	1,006,687
Byproduct and Water-gas	-	-	-	-	-	-	-	-	-	-	410,977	410,977	410,977
Smithing	-	-	-	-	-	-	-	-	206	-	-	-	206
Storage	-	-	-	-	-	-	-	-	7,447	-	-	-	7,447
Vermont Total	-	-	-	-	-	-	-	-	316,518	-	22,889	22,889	339,407
Industrial	-	-	-	-	-	-	-	-	238,445	-	22,788	22,788	261,233
Retail Yards	-	-	-	-	-	-	-	-	74,561	-	101	101	74,662
Byproducts and Water-gas	-	-	-	-	-	-	-	-	3,021	-	-	-	3,021
Smithing	-	-	-	-	-	-	-	-	491	-	-	-	491

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 (Continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Middle Atlantic															
New Jersey Total	2,892,143	583,841	1,691,119	1,669	-	9,980	257,269	110,691	-	-	-	-	-	-	-
Industrial	2,504,419	519,898	1,324,368	-	-	4,439	109,264	77,043	-	-	-	-	-	-	-
Retail Yards	380,496	56,256	366,535	1,669	-	5,541	148,005	23,486	-	-	-	-	-	-	-
Byproduct and Water-gas	1,502	7,687	216	-	-	-	-	10,162	-	-	-	-	-	-	-
Smithing	4,902	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	824	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New York Total	7,279,489	4,647,336	3,829,981	190,398	-	144,605	125,631	99,242	-	-	-	-	-	-	-
Industrial	5,550,142	1,936,182	2,358,483	118,610	-	116,416	53,771	27,120	-	-	-	-	-	-	-
Retail Yards	754,781	304,675	483,471	71,788	-	28,189	47,278	12,070	-	-	-	-	-	-	-
Byproduct and Water-gas	969,515	2,406,431	988,027	-	-	-	24,259	60,052	-	-	-	-	-	-	-
Smithing	5,051	48	-	-	-	-	323	-	-	-	-	-	-	-	-
Pennsylvania Total	8,605,059	36,986,318	5,033,120	128,301	-	106,302	309,108	578,042	-	-	-	-	-	-	-
Industrial	4,830,388	8,579,466	2,599,354	64,751	-	71,434	35,954	221,655	-	-	-	-	-	-	-
Retail Yards	510,476	1,960,506	291,430	63,550	-	34,868	85,638	52,249	-	-	-	-	-	-	-
Byproduct and Water-gas 3/	3,255,709	26,443,448	2,142,336	-	-	-	187,309	301,448	-	-	-	-	-	-	-
Smithing	8,242	2,898	-	-	-	-	207	2,690	-	-	-	-	-	-	-
Storage	244	-	-	-	-	-	-	-	-	-	-	-	-	-	-
East North Central															
Illinois Total	11,952	11,804	57,526	8,471	-	-	5,344,839	4,516,351	753,211	27,388,753	3,637,135	-	-	689	564
Industrial	2,328	11,804	13,740	-	-	-	68,177	441,953	179,978	19,926,137	2,329,068	-	-	526	564
Retail Yards	4,303	-	43,786	8,471	-	-	3,875,584	1,924,755	573,233	7,168,141	1,283,566	-	-	163	-
Byproduct and Water-gas	-	-	-	-	-	-	1,395,623	2,149,217	-	294,475	24,501	-	-	-	-
Smithing	5,321	-	-	-	-	-	5,455	426	-	-	-	-	-	-	-
Indiana Total	4,521	9,331	49,875	74,829	-	-	3,887,354	8,833,782	708,309	1,975,155	8,949,239	-	-	-	-
Industrial	781	8,518	13,440	24,581	-	-	109,042	1,482,829	479,124	1,772,891	7,499,931	-	-	-	-
Retail Yards	1,989	536	36,435	50,248	-	-	1,004,431	4,066,836	229,185	202,264	1,449,308	-	-	-	-
Byproduct and Water-gas	-	-	-	-	-	-	2,772,891	3,273,636	-	-	-	-	-	-	-
Smithing	1,751	277	-	-	-	-	990	-	-	-	-	-	-	-	-
Storage	-	-	-	-	-	-	-	10,481	-	-	-	-	-	-	-
Michigan Total	57,534	345,057	256,490	1,313,641	43,208	-	3,938,175	9,328,803	30,554	359,700	89,079	-	-	-	-
Industrial	45,870	267,230	142,132	886,825	13,774	-	139,639	4,984,409	6,384	165,161	56,369	-	-	-	-
Retail Yards	10,691	17,372	113,299	412,936	29,434	-	3,641,863	4,096,828	24,170	194,539	32,710	-	-	-	-
Byproduct and Water-gas	-	60,455	1,059	13,880	-	-	155,228	247,566	-	-	-	-	-	-	-
Smithing	973	-	-	-	-	-	1,445	-	-	-	-	-	-	-	-

TABLE 1.

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 (Continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN								Distribution of Total Production Reported on Forms S.F.A. Nos. 38 and 56	Waterborne Shipments via Lake and Tidewater 2/			Grand Total Distribution
	16	17	18	19	20	21	22	23		Great Lakes	Tidewater	Total	
Middle Atlantic													
New Jersey Total	-	-	-	-	-	-	-	-	5,546,712	-	4,711,636	4,711,636	10,258,348
Industrial	-	-	-	-	-	-	-	-	4,539,431	-	3,360,159	3,360,159	7,899,590
Retail Yards	-	-	-	-	-	-	-	-	981,988	-	4,215	4,215	986,203
Byproduct and Water-gas	-	-	-	-	-	-	-	-	19,567	-	1,347,262	1,347,262	1,366,829
Smithing	-	-	-	-	-	-	-	-	4,902	-	-	-	4,902
Storage	-	-	-	-	-	-	-	-	824	-	-	-	824
New York Total	-	-	-	-	-	-	-	-	16,316,682	3,259,924	9,960,556	13,220,480	29,537,162
Industrial	-	-	-	-	-	-	-	-	10,160,724	1,387,346	6,884,009	8,271,355	18,432,079
Retail Yards	-	-	-	-	-	-	-	-	1,702,252	42,552	1,365,621	1,408,173	3,110,425
Byproduct and Water-gas	-	-	-	-	-	-	-	-	4,448,284	1,830,026	1,710,926	3,540,952	7,989,236
Smithing	-	-	-	-	-	-	-	-	5,422	-	-	-	5,422
Pennsylvania Total	-	-	-	-	-	-	-	-	51,746,250	238,036	2,975,151	3,213,187	54,959,437
Industrial	-	-	-	-	-	-	-	-	16,403,002	-	2,551,306	2,551,306	18,954,308
Retail Yards	-	-	-	-	-	-	-	-	2,998,717	-	-	-	2,998,717
Byproduct and Water gas 3/	-	-	-	-	-	-	-	-	32,330,250	238,036	423,845	661,881	32,992,131
Smithing	-	-	-	-	-	-	-	-	14,037	-	-	-	14,037
Storage	-	-	-	-	-	-	-	-	244	-	-	-	244
East North Central													
Illinois Total	-	-	-	-	-	-	-	-	41,731,295	2,238,883	-	2,238,883	43,970,178
Industrial	-	-	-	-	-	-	-	-	22,974,275	75,306	-	75,306	23,049,581
Retail Yards	-	-	-	-	-	-	-	-	14,882,002	84,747	-	84,747	14,966,749
Byproduct and Water-gas	-	-	-	-	-	-	-	-	3,863,816	2,078,700	-	2,078,700	5,942,516
Smithing	-	-	-	-	-	-	-	-	11,202	130	-	130	11,332
Indiana Total	-	-	-	-	-	-	-	-	24,492,395	3,632,373	-	3,632,373	28,124,768
Industrial	-	-	-	-	-	-	-	-	11,391,137	-	-	-	11,391,137
Retail Yards	-	-	-	-	-	-	-	-	7,041,232	-	-	-	7,041,232
Byproduct and Water-gas	-	-	-	-	-	-	-	-	6,046,527	3,632,373	-	3,632,373	9,678,900
Smithing	-	-	-	-	-	-	-	-	3,018	-	-	-	3,018
Storage	-	-	-	-	-	-	-	-	10,481	-	-	-	10,481
Michigan Total	-	-	-	-	-	-	-	-	15,762,241	12,204,335	-	12,204,335	27,966,576
Industrial	-	-	-	-	-	-	-	-	6,707,793	7,445,391	-	7,445,391	14,153,184
Retail Yards	-	-	-	-	-	-	-	-	8,573,842	1,185,326	-	1,185,326	9,759,168
Byproduct and Water-gas	-	-	-	-	-	-	-	-	478,188	3,573,289	-	3,573,289	4,051,477
Smithing	-	-	-	-	-	-	-	-	2,418	329	-	329	2,747

TABLE 1.

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 (Continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ohio Total	428,572	8,761,211	3,782,152	10,541,872	-	873,494	6,479,311	17,014,013	8,343	562	35,057	-	-	-	-
Industrial	80,190	2,770,271	2,664,379	8,564,607	-	813,940	384,229	6,987,297	2,914	57	33,556	-	-	-	-
Retail Yards	16,956	516,073	922,833	1,966,710	-	59,554	2,794,222	6,400,911	5,429	505	1,501	-	-	-	-
Byproduct and Water-gas	327,318	5,458,819	194,228	10,555	-	-	3,296,859	3,441,340	-	-	-	-	-	-	-
Smithing	4,108	1,637	-	-	-	-	4,001	-	-	-	-	-	-	-	-
Storage	-	14,411	712	-	-	-	-	184,465	-	-	-	-	-	-	-
Wisconsin Total	2,305	-	15,418	3,528	-	-	688,592	147,996	143,990	2,306,020	1,008,731	-	-	-	-
Industrial	104	-	1,379	2,921	-	-	6,119	15,757	124,361	1,795,517	926,250	-	-	-	-
Retail Yards	-	-	11,604	607	-	-	682,258	122,861	19,629	510,503	64,366	-	-	-	-
Byproduct and Water-gas	-	-	2,435	-	-	-	-	9,378	-	-	18,115	-	-	-	-
Smithing	2,201	-	-	-	-	-	215	-	-	-	-	-	-	-	-
Storage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
West North Central															
Iowa Total	1,981	-	14,367	3,115	-	-	58,998	660,655	281,674	4,364,243	634,084	736,713	-	118,511	268,604
Industrial	-	-	46	-	-	-	543	2,475	41,650	2,025,155	286,660	585,899	-	16,863	63,384
Retail Yards	-	-	14,321	3,115	-	-	54,787	616,672	240,024	2,327,307	347,424	145,989	-	101,648	205,220
Byproduct and Water-gas	-	-	-	-	-	-	2,555	41,357	-	11,781	-	4,825	-	-	-
Smithing	1,981	-	-	-	-	-	1,113	-	-	-	-	-	-	-	-
Storage	-	-	-	-	-	-	-	151	-	-	-	-	-	-	-
Kansas Total	1,444	-	-	-	-	-	228	-	-	70,208	525	381	271	198,240	1,875,699
Industrial	-	-	-	-	-	-	-	-	-	5,750	525	-	-	40,767	1,190,798
Retail Yards	-	-	-	-	-	-	105	-	-	64,458	-	381	-	157,353	684,901
Byproduct and Water-gas	-	-	-	-	-	-	-	-	-	-	-	-	-	120	-
Smithing	1,444	-	-	-	-	-	123	-	-	-	-	-	271	-	-
Minnesota Total	5,373	-	3,262	693	-	-	81,938	43,439	48,558	1,064,208	124,010	228	-	50,562	13,047
Industrial	-	-	856	-	-	-	41	3,164	21,136	732,675	95,314	-	-	2,552	12,741
Retail Yards	-	-	2,406	693	-	-	81,897	40,275	27,422	331,533	28,696	228	-	48,010	306
Byproduct and Water-gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	5,373	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Missouri Total	36,943	-	1,049	-	-	-	458,756	367,888	82,306	4,097,727	5,771	10,029	4,216	693,196	2,472,966
Industrial	4,987	-	995	-	-	-	1,120	22,164	68,579	2,003,398	937	-	533	46,924	1,332,920
Retail Yards	23,861	-	54	-	-	-	333,814	103,850	13,727	2,093,838	4,834	10,029	2,767	646,272	1,140,046
Byproduct and Water-gas	-	-	-	-	-	-	123,737	241,874	-	491	-	-	-	-	-
Smithing	8,095	-	-	-	-	-	85	-	-	-	-	-	916	-	-
Nebraska Total	1,263	-	-	-	-	-	533	1,951	7,529	234,395	2,064	159	-	194,022	945,526
Industrial	-	-	-	-	-	-	206	-	698	52,937	-	-	-	3,457	501,886
Retail Yards	-	-	-	-	-	-	327	1,951	6,831	181,458	2,064	159	-	190,565	443,640
Smithing	1,263	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 (Continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN								Distribution of Total Production Reported on Forms S.F.A. Nos. 38 and 56	Waterborne Shipments via Lake and Tidewater 2/			Grand Total Distribution
	16	17	18	19	20	21	22	23		Great Lakes	Tidewater	Total	
Ohio Total	-	-	-	-	-	-	-	-	47,924,587	469,842	-	469,842	48,394,429
Industrial	-	-	-	-	-	-	-	-	22,301,440	-	-	-	22,301,440
Retail Yards	-	-	-	-	-	-	-	-	12,684,694	1,132	-	1,132	12,685,826
Byproduct and Water gas	-	-	-	-	-	-	-	-	12,729,119	468,710	-	468,710	13,197,829
Smithing	-	-	-	-	-	-	-	-	9,746	-	-	-	9,746
Storage	-	-	-	-	-	-	-	-	199,588	-	-	-	199,588
Wisconsin Total	-	-	-	-	-	-	-	-	4,316,580	8,939,374	-	8,939,374	13,255,954
Industrial	-	-	-	-	-	-	-	-	2,872,408	3,588,417	-	3,588,417	6,460,825
Retail Yards	-	-	-	-	-	-	-	-	1,411,828	3,749,245	-	3,749,245	5,161,073
Byproduct and Water-gas	-	-	-	-	-	-	-	-	29,928	1,571,392	-	1,571,392	1,601,320
Smithing	-	-	-	-	-	-	-	-	2,416	778	-	778	3,194
Storage	-	-	-	-	-	-	-	-	-	29,542	-	29,542	29,542
West North Central													
Iowa Total	138	15,345	-	8,520	-	-	548	-	7,167,496	127,097	-	127,097	7,294,593
Industrial	48	37	-	443	-	-	-	-	3,023,203	941	-	941	3,024,144
Retail Yards	90	15,308	-	8,077	-	-	548	-	4,080,530	126,043	-	126,043	4,206,573
Byproduct and Water gas	-	-	-	-	-	-	-	-	60,518	52	-	52	60,570
Smithing	-	-	-	-	-	-	-	-	3,094	61	-	61	3,155
Storage	-	-	-	-	-	-	-	-	151	-	-	-	151
Kansas Total	5,837	239,186	-	3,892	2,145	-	-	-	2,398,056	-	-	-	2,398,056
Industrial	-	1,486	-	48	-	-	-	-	1,239,374	-	-	-	1,239,374
Retail Yards	5,837	237,700	-	3,844	2,145	-	-	-	1,156,724	-	-	-	1,156,724
Byproduct and Water-gas	-	-	-	-	-	-	-	-	120	-	-	-	120
Smithing	-	-	-	-	-	-	-	-	1,838	-	-	-	1,838
Minnesota Total	-	542	-	730	-	91,752	11,065	-	1,539,407	3,846,540	-	3,846,540	5,385,947
Industrial	-	-	-	127	-	48,347	-	-	916,953	1,261,886	-	1,261,886	2,178,839
Retail Yards	-	542	-	603	-	43,405	11,065	-	617,081	2,126,271	-	2,126,271	2,743,352
Byproduct and Water-gas	-	-	-	-	-	-	-	-	-	455,582	-	455,582	455,582
Smithing	-	-	-	-	-	-	-	-	5,373	2,801	-	2,801	8,174
Missouri Total	-	46	-	1,126	-	-	-	-	8,232,019	-	-	-	8,232,019
Industrial	-	-	-	-	-	-	-	-	3,482,557	-	-	-	3,482,557
Retail Yards	-	46	-	1,126	-	-	-	-	4,374,264	-	-	-	4,374,264
Byproduct and Water gas	-	-	-	-	-	-	-	-	366,102	-	-	-	366,102
Smithing	-	-	-	-	-	-	-	-	9,096	-	-	-	9,096
Nebraska Total	10,626	565,156	-	290,065	5,341	-	80	-	2,258,710	8,725	-	8,725	2,267,435
Industrial	603	22,834	-	150,199	-	-	80	-	732,900	1	-	1	732,901
Retail Yards	10,023	542,322	-	139,866	5,341	-	-	-	1,524,547	8,724	-	8,724	1,533,271
Smithing	-	-	-	-	-	-	-	-	1,263	-	-	-	1,263

TABLE 1.

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 (Continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
North Dakota Total	452	-	-	-	-	-	-	-	3,560	439	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	3,390	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	170	439	-	-	-	-	-
Byproduct and Water-gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	452	-	-	-	-	-	-	-	-	-	-	-	-	-	-
South Dakota Total	832	-	-	246	-	-	5,638	2,427	16,520	133,574	4,640	-	-	30,284	21,422
Industrial	-	-	-	-	-	-	-	55	13,043	85,895	4,066	-	-	1,036	12,462
Retail Yards	-	-	-	246	-	-	5,638	964	3,477	47,679	574	-	-	29,248	8,960
Byproduct and Water-gas	-	-	-	-	-	-	-	1,408	-	-	-	-	-	-	-
Smithing	832	-	-	-	-	-	-	-	-	-	-	-	-	-	-
South Atlantic															
Delaware Total	232,145	45,555	125,382	273	-	-	20,889	3,601	-	-	-	-	-	-	-
Industrial	205,124	42,010	96,178	-	-	-	18,974	3,601	-	-	-	-	-	-	-
Retail Yards	27,021	2,415	29,204	273	-	-	1,915	-	-	-	-	-	-	-	-
Byproduct and Water-gas	-	1,130	-	-	-	-	-	-	-	-	-	-	-	-	-
District of Columbia Total	272,538	6,037	54,401	563	-	94	1,624,832	54,836	-	-	-	-	-	-	-
Industrial	239,482	5,797	27,786	-	-	94	1,094,940	30,024	-	-	-	-	-	-	-
Retail Yards	33,056	240	26,615	563	-	-	528,612	17,935	-	-	-	-	-	-	-
Byproduct and Water-gas	-	-	-	-	-	-	1,280	6,877	-	-	-	-	-	-	-
Florida Total	-	-	-	-	-	-	4,140	228,154	407	-	-	-	295,378	-	-
Industrial	-	-	-	-	-	-	193	116,106	313	-	-	-	266,752	-	-
Retail Yards	-	-	-	-	-	-	3,519	93,059	94	-	-	-	26,825	-	-
Byproduct and Water-gas	-	-	-	-	-	-	-	18,989	-	-	-	-	-	-	-
Smithing	-	-	-	-	-	-	428	-	-	-	-	-	1,801	-	-
Georgia Total	-	-	-	-	-	-	40,571	2,970,253	41,121	-	-	-	478,015	-	-
Industrial	-	-	-	-	-	-	38,946	1,364,412	9,514	-	-	-	402,958	-	-
Retail Yards	-	-	-	-	-	-	1,009	1,588,879	31,607	-	-	-	72,352	-	-
Byproduct and Water-gas	-	-	-	-	-	-	207	16,962	-	-	-	-	-	-	-
Smithing	-	-	-	-	-	-	409	-	-	-	-	-	2,705	-	-
Maryland Total	1,609,093	109,520	2,666,651	1,026	-	32,717	491,213	105,634	-	-	-	-	-	-	-
Industrial	1,275,053	77,761	948,457	-	-	12,937	154,840	89,476	-	-	-	-	-	-	-
Retail Yards	299,535	20,028	292,647	1,026	-	19,780	250,683	15,219	-	-	-	-	-	-	-
Byproduct and Water-gas	32,446	11,731	1,425,547	-	-	-	85,627	939	-	-	-	-	-	-	-
Smithing	2,059	-	-	-	-	-	63	-	-	-	-	-	-	-	-

TABLE 1.

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 (Continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN								Distribution of Total Production Reported on Forms S.F.A. Nos. 38 and 56	Waterborne Shipments via Lake and Tidewater 2/			Grand Total Distribution
	16	17	18	19	20	21	22	23		Great Lakes	Tidewater	Total	
North Dakota Total	-	-	-	26,306	-	1,526,035	36,412	-	1,593,204	210,380	-	210,380	1,803,584
Industrial	-	-	-	2,308	-	700,445	78	-	706,221	26,911	-	26,911	733,132
Retail Yards	-	-	-	23,998	-	825,590	36,334	-	886,531	183,347	-	183,347	1,069,878
Byproduct and Water-gas	-	-	-	-	-	-	-	-	-	41	-	41	41
Smithing	-	-	-	-	-	-	-	-	452	81	-	81	533
South Dakota Total	286	58,172	-	99,188	3,026	118,754	96,533	-	591,542	358,661	-	358,661	950,203
Industrial	-	3,097	-	58,754	-	89,007	37,517	-	304,932	8,868	-	8,868	313,800
Retail Yards	286	55,075	-	40,434	3,026	29,747	59,016	-	284,370	349,696	-	349,696	634,066
Byproduct and Water-gas	-	-	-	-	-	-	-	-	1,408	-	-	-	1,408
Smithing	-	-	-	-	-	-	-	-	832	97	-	97	929
South Atlantic													
Delaware Total	-	-	-	-	-	-	-	-	427,845	-	96	96	427,941
Industrial	-	-	-	-	-	-	-	-	365,887	-	96	96	365,983
Retail Yards	-	-	-	-	-	-	-	-	60,828	-	-	-	60,828
Byproduct and Water-gas	-	-	-	-	-	-	-	-	1,130	-	-	-	1,130
District of Columbia Total	-	-	-	-	-	-	-	-	2,013,301	-	-	-	2,013,301
Industrial	-	-	-	-	-	-	-	-	1,398,123	-	-	-	1,398,123
Retail Yards	-	-	-	-	-	-	-	-	607,021	-	-	-	607,021
Byproduct and Water-gas	-	-	-	-	-	-	-	-	8,157	-	-	-	8,157
Florida Total	-	-	-	-	-	-	-	-	528,079	-	-	-	528,079
Industrial	-	-	-	-	-	-	-	-	383,364	-	-	-	383,364
Retail Yards	-	-	-	-	-	-	-	-	123,497	-	-	-	123,497
Byproduct and Water-gas	-	-	-	-	-	-	-	-	18,989	-	-	-	18,989
Smithing	-	-	-	-	-	-	-	-	2,229	-	-	-	2,229
Georgia Total	-	-	-	-	-	-	-	-	3,529,960	-	-	-	3,529,960
Industrial	-	-	-	-	-	-	-	-	1,815,830	-	-	-	1,815,830
Retail Yards	-	-	-	-	-	-	-	-	1,693,847	-	-	-	1,693,847
Byproduct and Water-gas	-	-	-	-	-	-	-	-	17,169	-	-	-	17,169
Smithing	-	-	-	-	-	-	-	-	3,114	-	-	-	3,114
Maryland Total	-	-	-	-	-	-	-	-	5,015,854	-	1,245,737	1,245,737	6,261,591
Industrial	-	-	-	-	-	-	-	-	2,558,524	-	1,194,953	1,194,953	3,753,477
Retail Yards	-	-	-	-	-	-	-	-	898,918	-	-	-	898,918
Byproduct and Water-gas	-	-	-	-	-	-	-	-	1,556,290	-	50,784	50,784	1,607,074
Smithing	-	-	-	-	-	-	-	-	2,122	-	-	-	2,122

TABLE 1.

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 (Continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
North Carolina Total	-	-	-	-	-	-	1,545,795	4,735,816	870	-	-	-	237	-	-
Industrial	-	-	-	-	-	-	1,149,481	2,665,393	870	-	-	-	145	-	-
Retail Yards	-	-	-	-	-	-	395,003	1,957,937	-	-	-	-	-	-	-
Byproduct and Water-gas	-	-	-	-	-	-	-	112,486	-	-	-	-	-	-	-
Smithing	-	-	-	-	-	-	1,311	-	-	-	-	-	92	-	-
South Carolina Total	-	-	-	-	-	-	369,584	2,724,780	-	-	-	-	5,521	-	-
Industrial	-	-	-	-	-	-	357,317	1,717,692	-	-	-	-	5,220	-	-
Retail Yards	-	-	-	-	-	-	11,970	951,388	-	-	-	-	301	-	-
Byproduct and Water-gas	-	-	-	-	-	-	-	55,700	-	-	-	-	-	-	-
Smithing	-	-	-	-	-	-	297	-	-	-	-	-	-	-	-
Virginia Total	11,858	3,535	81,693	-	-	6,740	5,551,992	3,397,387	412	-	-	-	-	-	-
Industrial	5,588	2,424	78,352	-	-	6,740	3,877,867	2,017,969	357	-	-	-	-	-	-
Retail Yards	6,270	1,111	3,341	-	-	-	1,665,930	907,977	55	-	-	-	-	-	-
Byproduct and Water-gas 3/	-	-	-	-	-	-	7,374	471,441	-	-	-	-	-	-	-
Smithing	-	-	-	-	-	-	821	-	-	-	-	-	-	-	-
West Virginia Total	219,222	2,531,627	1,851,139	23,607	-	322,695	390,723	4,598,659	-	-	-	-	-	-	-
Industrial	32,907	440,420	975,549	16,335	-	322,695	134,097	3,467,407	-	-	-	-	-	-	-
Retail Yards	9,916	-	72,928	7,272	-	-	118,629	53,711	-	-	-	-	-	-	-
Byproduct and Water-gas 3/	175,663	2,091,207	802,662	-	-	-	137,010	1,074,254	-	-	-	-	-	-	-
Smithing	736	-	-	-	-	-	987	-	-	-	-	-	-	-	-
Storage	-	-	-	-	-	-	-	3,287	-	-	-	-	-	-	-
East South Central															
Alabama Total	-	-	-	-	-	-	150,084	110,569	106,734	426	-	-	11,427,125	-	-
Industrial	-	-	-	-	-	-	24,485	14,444	83,796	-	-	-	2,551,399	-	-
Retail Yards	-	-	-	-	-	-	1,766	96,125	22,938	426	-	-	920,219	-	-
Byproduct and Water-gas 3/	-	-	-	-	-	-	123,833	-	-	-	-	-	7,950,981	-	-
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	4,526	-	-
Kentucky Total	40	-	-	-	-	-	249,098	3,586,062	2,685,417	1,180	14,182	-	510	-	-
Industrial	-	-	-	-	-	-	11,697	1,150,674	1,932,875	-	14,182	-	-	-	-
Retail Yards	-	-	-	-	-	-	65,677	1,651,552	752,542	1,180	-	-	278	-	-
Byproduct and Water-gas 3/	-	-	-	-	-	-	171,297	783,836	-	-	-	-	-	-	-
Smithing	40	-	-	-	-	-	427	-	-	-	-	-	232	-	-
Mississippi Total	-	-	-	-	-	-	53	2,189	470,115	31,603	-	-	207,922	-	-
Industrial	-	-	-	-	-	-	53	-	309,623	8,230	-	-	65,893	-	-
Retail Yards	-	-	-	-	-	-	-	2,189	160,492	23,373	-	-	138,956	-	-
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	3,073	-	-

TABLE 1.

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 (Continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN 16	17	18	19	20	21	22	23	Distribution of Total Production Reported on Forms S.F.A. Nos. 38 and 56	Waterborne Shipments via Lake and Tidewater 2/ Great Lakes	Tidewater	Total	Grand Total Distribution
North Carolina Total	-	-	-	-	-	-	-	-	6,282,718	-	-	-	6,282,718
Industrial	-	-	-	-	-	-	-	-	3,815,889	-	-	-	3,815,889
Retail Yards	-	-	-	-	-	-	-	-	2,352,940	-	-	-	2,352,940
Byproduct and Water-gas	-	-	-	-	-	-	-	-	112,486	-	-	-	112,486
Smithing	-	-	-	-	-	-	-	-	1,403	-	-	-	1,403
South Carolina Total	-	-	-	-	-	-	-	-	3,099,885	-	-	-	3,099,885
Industrial	-	-	-	-	-	-	-	-	2,080,229	-	-	-	2,080,229
Retail Yards	-	-	-	-	-	-	-	-	963,659	-	-	-	963,659
Byproduct and Water-gas	-	-	-	-	-	-	-	-	55,700	-	-	-	55,700
Smithing	-	-	-	-	-	-	-	-	297	-	-	-	297
Virginia Total	-	-	-	-	-	-	-	-	9,053,617	-	17,516	17,516	9,071,133
Industrial	-	-	-	-	-	-	-	-	5,989,297	-	16,946	16,946	6,006,243
Retail Yards	-	-	-	-	-	-	-	-	2,584,684	-	570	570	2,585,254
Byproduct and Water-gas 3/	-	-	-	-	-	-	-	-	478,815	-	-	-	478,815
Smithing	-	-	-	-	-	-	-	-	821	-	-	-	821
West Virginia Total	-	-	-	-	-	-	-	-	9,937,672	-	-	-	9,937,672
Industrial	-	-	-	-	-	-	-	-	5,389,410	-	-	-	5,389,410
Retail Yards	-	-	-	-	-	-	-	-	262,456	-	-	-	262,456
Byproduct and Water-gas 3/	-	-	-	-	-	-	-	-	4,280,796	-	-	-	4,280,796
Smithing	-	-	-	-	-	-	-	-	1,723	-	-	-	1,723
Storage	-	-	-	-	-	-	-	-	3,287	-	-	-	3,287
East South Central													
Alabama Total	-	-	-	-	-	-	-	-	11,794,938	-	-	-	11,794,938
Industrial	-	-	-	-	-	-	-	-	2,674,124				2,674,124
Retail Yards	-	-	-	-	-	-	-	-	1,041,474	-	-	-	1,041,474
Byproduct and Water-gas 3/	-	-	-	-	-	-	-	-	8,074,814	-	-	-	8,074,814
Smithing	-	-	-	-	-	-	-	-	4,526	-	-	-	4,526
Kentucky Total	-	-	-	-	-	-	-	-	6,536,489	-	-	-	6,536,489
Industrial	-	-	-	-	-	-	-	-	3,109,428	-	-	-	3,109,428
Retail Yards	-	-	-	-	-	-	-	-	2,471,229	-	-	-	2,471,229
Byproduct and Water-gas 3/	-	-	-	-	-	-	-	-	955,133	-	-	-	955,133
Smithing	-	-	-	-	-	-	-	-	699	-	-	-	699
Mississippi Total	-	-	-	-	-	-	-	-	711,882	-	-	-	711,882
Industrial	-	-	-	-	-	-	-	-	383,799	-	-	-	383,799
Retail Yards	-	-	-	-	-	-	-	-	325,010	-	-	-	325,010
Smithing	-	-	-	-	-	-	-	-	3,073	-	-	-	3,073

TABLE 1.

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 (Continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Tennessee Total	-	-	-	-	-	-	24,598	4,232,380	2,547,562	128,359	-	-	663,119	203	-
Industrial	-	-	-	-	-	-	2,617	2,459,304	1,419,771	35,447	-	-	320,783	-	-
Retail Yards	-	-	-	-	-	-	448	1,516,511	1,127,791	92,912	-	-	147,439	203	-
Byproduct and Water-gas 3/	-	-	-	-	-	-	21,384	250,950	-	-	-	-	191,357	-	-
Smithing	-	-	-	-	-	-	149	5,615	-	-	-	-	3,540	-	-
West South Central															
Arkansas Total	144	-	-	-	-	-	-	3,062	161,563	224,555	-	-	32,621	126,524	6,919
Industrial	-	-	-	-	-	-	-	-	91,219	110,877	-	-	3,312	56,295	3,259
Retail Yards	-	-	-	-	-	-	-	3,062	70,344	113,678	-	-	27,126	70,229	3,660
Smithing	144	-	-	-	-	-	-	-	-	-	-	-	2,183	-	-
Louisiana Total	-	-	-	-	-	-	-	101	77,993	26,615	-	-	81,047	957	5,213
Industrial	-	-	-	-	-	-	-	-	54,012	16,796	-	-	22,884	-	1,067
Retail Yards	-	-	-	-	-	-	-	101	23,981	9,819	-	-	50,762	957	4,146
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	7,401	-	-
Oklahoma Total	253	-	-	-	-	-	37	-	-	-	-	-	-	69,528	736,709
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	60,736	551,520
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	8,792	185,189
Smithing	253	-	-	-	-	-	37	-	-	-	-	-	-	-	-
Texas Total	722	-	-	-	-	-	254	-	-	-	-	-	6,811	137,353	489,015
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	51	27,389	217,197
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	837	3,044	88,535
Byproduct and Water-gas	-	-	-	-	-	-	-	-	-	-	-	-	-	106,920	183,283
Smithing	722	-	-	-	-	-	254	-	-	-	-	-	5,923	-	-
Mountain															
Arizona Total	265	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	265	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Colorado Total	940	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Byproduct and Water-gas 3/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	940	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Idaho Total	119	-	-	-	-	-	311	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	221	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	54	-	-	-	-	-	-	-	-
Smithing	119	-	-	-	-	-	36	-	-	-	-	-	-	-	-

TABLE 1.

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 (Continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN								Distribution of Total Production Reported on Forms S.F.A. Nos. 38 and 56	Waterborne Shipments via Lakes and Tidewater 2/			Grand Total Distribution
	16	17	18	19	20	21	22	23		Great Lakes	Tidewater	Total	
Tennessee Total	-	-	-	-	-	-	-	-	7,596,221	-	-	-	7,596,221
Industrial	-	-	-	-	-	-	-	-	4,237,922	-	-	-	4,237,922
Retail Yards	-	-	-	-	-	-	-	-	2,885,304	-	-	-	2,885,304
Byproduct and Water-gas 3/	-	-	-	-	-	-	-	-	463,691	-	-	-	463,691
Smithing	-	-	-	-	-	-	-	-	9,304	-	-	-	9,304
West South Central													
Arkansas Total	-	-	-	-	-	-	-	-	555,388	-	-	-	555,388
Industrial	-	-	-	-	-	-	-	-	264,962	-	-	-	264,962
Retail Yards	-	-	-	-	-	-	-	-	288,099	-	-	-	288,099
Smithing	-	-	-	-	-	-	-	-	2,327	-	-	-	2,327
Louisiana Total	-	-	-	-	-	-	-	-	191,926	-	-	-	191,926
Industrial	-	-	-	-	-	-	-	-	94,759	-	-	-	94,759
Retail Yards	-	-	-	-	-	-	-	-	89,766	-	-	-	89,766
Smithing	-	-	-	-	-	-	-	-	7,401	-	-	-	7,401
Oklahoma Total	-	13,192	-	-	-	-	-	-	819,719	-	-	-	819,719
Industrial	-	49	-	-	-	-	-	-	612,305	-	-	-	612,305
Retail Yards	-	13,143	-	-	-	-	-	-	207,124	-	-	-	207,124
Smithing	-	-	-	-	-	-	-	-	290	-	-	-	290
Texas Total	-	71,756	4,154	-	-	-	-	-	710,065	-	-	-	710,065
Industrial	-	31,426	85	-	-	-	-	-	276,148	-	-	-	276,148
Retail Yards	-	40,330	4,069	-	-	-	-	-	136,815	-	-	-	136,815
Byproduct and Water-gas	-	-	-	-	-	-	-	-	290,203	-	-	-	290,203
Smithing	-	-	-	-	-	-	-	-	6,899	-	-	-	6,899
Mountain													
Arizona Total	-	30,448	42,292	-	-	-	-	-	73,005	-	-	-	73,005
Industrial	-	27,318	9,282	-	-	-	-	-	36,600	-	-	-	36,600
Retail Yards	-	3,005	33,010	-	-	-	-	-	36,015	-	-	-	36,015
Smithing	-	125	-	-	-	-	-	-	390	-	-	-	390
Colorado Total	1,349,805	2,297,997	-	19,273	120	-	-	-	3,668,135	-	-	-	3,668,135
Industrial	731,057	362,779	-	14,402	-	-	-	-	1,108,238	-	-	-	1,108,238
Retail Yards	618,748	624,484	-	4,871	120	-	-	-	1,248,223	-	-	-	1,248,223
Byproduct and Water-gas 3/	-	1,310,517	-	-	-	-	-	-	1,310,517	-	-	-	1,310,517
Smithing	-	217	-	-	-	-	-	-	1,157	-	-	-	1,157
Idaho Total	-	8,024	-	277,181	802,390	-	17,894	313	1,106,232	-	-	-	1,106,232
Industrial	-	-	-	191,025	136,884	-	9,339	313	337,782	-	-	-	337,782
Retail Yards	-	8,024	-	86,156	665,506	-	8,555	-	768,295	-	-	-	768,295
Smithing	-	-	-	-	-	-	-	-	155	-	-	-	155

TABLE 1.

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 (Continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Montana Total	426	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	426	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nevada Total	133	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	133	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Mexico Total	199	-	-	-	-	-	56	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	199	-	-	-	-	-	56	-	-	-	-	-	-	-	-
Utah Total	166	-	-	-	-	-	-	-	-	-	-	-	-	-	5,354
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,648
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Byproduct and Water-gas 3/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,706
Smithing	166	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wyoming Total	124	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	124	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pacific															
California Total	4,357	-	-	-	-	-	2,246	-	-	-	-	-	-	-	53,955
Industrial	-	-	-	-	-	-	520	-	-	-	-	-	-	-	40,983
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Byproduct and Water-gas	-	-	-	-	-	-	48	-	-	-	-	-	-	-	12,972
Smithing	4,357	-	-	-	-	-	1,678	-	-	-	-	-	-	-	-
Oregon Total	1,411	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	1,411	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Washington Total	2,581	-	-	-	-	-	235	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Byproduct and Water-gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	2,581	-	-	-	-	-	235	-	-	-	-	-	-	-	-

TABLE 1.

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 (Continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN								Distribution of Total Production Reported on Forms S.F.A. Nos. 38 and 56	Waterborne Shipments via Lake and Tidewater 2/			Grand Total Distribution
	16	17	18	19	20	21	22	23		Great Lakes	Tidewater	Total	
Montana Total	-	434	-	140,898	27,516	3,699	349,948	-	522,921	42	-	42	522,963
Industrial	-	-	-	67,877	1,385	63	132,897	-	202,222	-	-	-	202,222
Retail Yards	-	434	-	73,021	26,131	3,636	215,984	-	319,206	-	-	-	319,206
Smithing	-	-	-	-	-	-	-	-	426	42	-	42	468
Storage	-	-	-	-	-	-	1,067	-	1,067	-	-	-	1,067
Nevada Total	-	42	-	8,284	242,336	-	-	-	250,795	-	-	-	250,795
Industrial	-	-	-	8,236	169,603	-	-	-	177,839	-	-	-	177,839
Retail Yards	-	42	-	48	72,733	-	-	-	72,823	-	-	-	72,823
Smithing	-	-	-	-	-	-	-	-	133	-	-	-	133
New Mexico Total	-	194,763	49,086	-	-	-	-	-	244,104	-	-	-	244,104
Industrial	-	94,053	10,622	-	-	-	-	-	104,675	-	-	-	104,675
Retail Yards	-	100,224	38,464	-	-	-	-	-	138,688	-	-	-	138,688
Smithing	-	486	-	-	-	-	-	-	741	-	-	-	741
Utah Total	-	11,954	-	32,189	2,848,333	-	-	-	2,897,996	-	-	-	2,897,996
Industrial	-	52	-	31,333	620,616	-	-	-	654,649	-	-	-	654,649
Retail Yards	-	11,902	-	856	687,592	-	-	-	700,350	-	-	-	700,350
Byproduct and Water-gas 3/	-	-	-	-	1,540,125	-	-	-	1,542,831	-	-	-	1,542,831
Smithing	-	-	-	-	-	-	-	-	166	-	-	-	166
Wyoming Total	38,560	47,478	-	371,095	-	-	955	-	458,212	-	-	-	458,212
Industrial	32,191	21,240	-	237,258	-	-	-	-	290,689	-	-	-	290,689
Retail Yards	6,369	26,238	-	133,775	-	-	955	-	167,337	-	-	-	167,337
Smithing	-	-	-	62	-	-	-	-	186	-	-	-	186
Pacific													
California Total	-	6,024	13,684	40,480	654,658	-	-	-	775,404	-	-	-	775,404
Industrial	-	1,687	8,453	27,721	47,125	-	-	-	126,489	-	-	-	126,489
Retail Yards	-	4,337	5,231	12,759	111,439	-	-	-	133,766	-	-	-	133,766
Byproduct and Water-gas	-	-	-	-	496,094	-	-	-	509,114	-	-	-	509,114
Smithing	-	-	-	-	-	-	-	-	6,035	-	-	-	6,035
Oregon Total	-	5,725	-	120,484	283,834	-	173	8,854	420,481	41	-	41	420,522
Industrial	-	-	-	64,057	77,449	-	-	8,804	150,310	41	-	41	150,351
Retail Yards	-	5,725	-	56,427	206,385	-	173	50	268,760	-	-	-	268,760
Smithing	-	-	-	-	-	-	-	-	1,411	-	-	-	1,411
Washington Total		25,458	-	634,059	728,901	-	432,036	484,443	2,307,713	-	-	-	2,307,713
Industrial	-	117	-	340,891	176,152	-	276,314	364,066	1,157,540	-	-	-	1,157,540
Retail Yards	-	25,341	-	293,168	552,749	-	155,722	89,031	1,116,011	-	-	-	1,116,011
Byproduct and Water-gas	-	-	-	-	-	-	-	31,274	31,274	-	-	-	31,274
Smithing	-	-	-	-	-	-	-	72	2,888	-	-	-	2,888

TABLE 1.

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 (Continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Unknown State Total	50,253	12,075	2,132	2,350	-	5,900	1,090	11,839	49	2,453	55	569	4,119	16,067	3,540
Industrial	39,724	9,646	2,132	2,277	-	5,900	736	10,272	-	224	-	352	3,975	7,116	2,420
Retail Yards	10,529	555	-	73	-	-	354	1,512	49	2,229	55	217	-	8,951	1,120
Byproduct and Water-gas	-	1,874	-	-	-	-	-	55	-	-	-	-	-	-	-
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	144	-	-
United States Total	24,697,393	54,299,055	20,649,112	12,297,744	43,208	1,504,323	32,694,305	68,896,187	8,176,797	42,410,175	14,504,572	748,079	13,206,912	1,695,445	6,839,224
Industrial	17,073,941	14,828,725	11,892,249	9,681,169	13,774	1,356,391	7,973,138	29,570,899	4,843,607	28,737,147	11,246,858	586,251	3,643,905	307,292	3,890,218
Retail Yards	2,787,373	2,923,915	3,195,838	2,592,140	29,434	147,932	16,157,960	26,450,935	3,333,190	13,366,281	3,215,098	157,003	1,387,862	1,265,435	2,765,723
Byproduct and Water-gas 3/	4,762,153	36,527,144	5,559,970	24,435	-	-	8,513,333	12,658,484	-	306,747	42,616	4,825	8,142,338	122,718	183,283
Smithing	72,858	4,860	-	-	-	-	21,317	8,731	-	-	-	-	32,807	-	-
Storage	1,068	14,411	1,055	-	-	-	28,557	207,138	-	-	-	-	-	-	-
Canada Total 4/	252,440	306,860	719,540	45,144	-	4,651	222,057	430,887	203	-	-	-	-	-	-
Industrial	173,336	276,686	541,385	22,511	-	1,185	14,667	178,506	203	-	-	-	-	-	-
Retail Yards	64,345	29,895	178,155	22,633	-	3,466	205,966	231,598	-	-	-	-	-	-	-
Byproduct and Water-gas	-	-	-	-	-	-	-	16,279	-	-	-	-	-	-	-
Smithing	14,759	-	-	-	-	-	1,424	-	-	-	-	-	-	-	-
Storage	-	279	-	-	-	-	-	4,504	-	-	-	-	-	-	-
Use not reported	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
United States and Canada Total	24,949,833	54,605,915	21,368,652	12,342,888	43,208	1,508,974	32,916,362	69,327,074	8,177,000	42,410,175	14,504,572	748,079	13,206,912	1,695,445	6,839,224
Industrial	17,247,277	15,105,411	12,433,634	9,703,680	13,774	1,357,576	7,987,805	29,749,405	4,843,810	28,737,147	11,246,858	586,251	3,643,905	307,292	3,890,218
Retail Yards	2,851,718	2,953,810	3,373,993	2,614,773	29,434	151,398	16,363,926	26,682,533	3,333,190	13,366,281	3,215,098	157,003	1,387,862	1,265,435	2,765,723
Byproduct and Water-gas 3/	4,762,153	36,527,144	5,559,970	24,435	-	-	8,513,333	12,674,763	-	306,747	42,616	4,825	8,142,338	122,718	183,283
Smithing	87,617	4,860	-	-	-	-	22,741	8,731	-	-	-	-	32,807	-	-
Storage	1,068	14,690	1,055	-	-	-	28,557	211,642	-	-	-	-	-	-	-
Use not reported	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Export overseas 5/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Vessel and Bunker Fuel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Railroad Fuel - U. S. and Canada	8,567,350	11,315,465	13,947,243	9,808,792	11,637	1,300,105	956,605	16,182,977	6,601,632	24,732,328	9,802,082	226,388	3,971,144	218,634	2,068,227
5. Tidewater	12,523,277	448,062	2,678,649	-	-	-	14,416,968	6,486,483	-	203,502	-	-	237,154	473	-
6. Lake	2,639,920	8,376,298	4,091,784	4,764,924	-	516,410	10,316,050	23,612,911	536,075	876,543	-	-	-	-	-
7. Truck 6/	1,337,181	4,278,004	205,100	4,201,015	50,145	663,366	182,786	960,362	497,876	5,805,806	1,809,602	715,585	412,712	17,132	896,306
8. Distributors and Wholesalers (Destination and Use Unknown)	254,487	696,600	340,509	67,825	-	83,505	305,502	1,018,659	134,489	202,123	136,212	13,268	13,623	40,967	35,555

TABLE 1.

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 (Continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN								Distribution of Total Production Reported on Forms S.F.A. Nos. 38 and 56	Waterborne Shipments via Lake and Tidewater 2/			Grand Total Distribution
	16	17	18	19	20	21	22	23		Great Lakes	Tidewater	Total	
Unknown State Total	-	263	-	-	4,180	-	369	5	117,308	-	3,047	3,047	120,355
Industrial	-	49	-	-	-	-	-	-	84,823	-	-	-	84,823
Retail Yards	-	192	-	-	4,180	-	369	-	30,385	-	3,047	3,047	33,432
Byproduct and Water-gas	-	-	-	-	-	-	-	-	1,929	-	-	-	1,929
Smithing	-	22	-	-	-	-	-	5	171	-	-	-	171
United States Total	1,405,252	3,592,005	109,216	2,073,770	5,602,780	1,740,240	946,013	493,615	318,625,422	35,534,253	32,347,433	67,881,686	386,507,108
Industrial	763,899	566,224	28,442	1,194,679	1,229,214	837,862	456,225	373,183	151,095,292	13,795,108	20,455,094	34,250,202	185,345,494
Retail Yards	641,353	1,714,414	80,774	879,029	2,337,347	902,378	488,721	89,081	86,909,216	7,857,083	5,539,544	13,396,627	100,305,843
Byproduct and Water-gas 3/	-	1,310,517	-	-	2,036,219	-	-	31,274	80,226,056	13,848,201	6,352,367	20,200,568	100,426,624
Smithing	-	850	-	62	-	-	-	77	141,562	4,319	428	4,747	146,309
Storage	-	-	-	-	-	-	1,067	-	253,296	29,542	-	29,542	282,838
Canada Total 4/	-	-	-	-	32	-	-	-	1,981,814	11,989,217	93,559	12,082,776	14,064,590
Industrial	-	-	-	-	32	-	-	-	1,208,511	2,558,020	1,477	2,559,497	3,768,008
Retail Yards	-	-	-	-	-	-	-	-	736,058	24,652	-	24,652	760,710
Byproduct and Water-gas	-	-	-	-	-	-	-	-	16,279	3,243,963	-	3,243,963	3,260,242
Smithing	-	-	-	-	-	-	-	-	16,183	-	-	-	16,183
Storage	-	-	-	-	-	-	-	-	4,783	6,162,582	-	6,162,582	6,167,365
Use not reported	-	-	-	-	-	-	-	-	-	-	92,082	92,082	92,082
United States and Canada Total	1,405,252	3,592,005	109,216	2,073,770	5,602,812	1,740,240	946,013	493,615	320,607,236	47,523,470	32,440,992	79,964,462	400,571,698
Industrial	763,899	566,224	28,442	1,194,679	1,229,246	837,862	456,225	373,183	152,303,803	16,353,128	20,456,571	36,809,699	189,113,502
Retail Yards	641,353	1,714,414	80,774	879,029	2,337,347	902,378	488,721	89,081	87,645,274	7,881,735	5,539,544	13,421,279	101,066,553
Byproduct and Water-gas 3/	-	1,310,517	-	-	2,036,219	-	-	31,274	80,242,335	17,092,164	6,352,367	23,444,531	103,686,866
Smithing	-	850	-	62	-	-	-	77	157,745	4,319	428	4,747	162,492
Storage	-	-	-	-	-	-	1,067	-	258,079	6,192,124	-	6,192,124	6,450,203
Use not reported	-	-	-	-	-	-	-	-	-	-	92,082	92,082	92,082
2. Export overseas 5/	-	-	-	-	-	-	-	-	-	-	1,527,669	1,527,669	1,527,669
3. Vessel and Bunker Fuel	-	-	-	-	-	-	-	-	-	2,585,864	1,157,217	3,743,081	3,743,081
4. Railroad Fuel - U. S. and Canada	104,511	2,008,319	306,785	7,167,256	1,014,050	115,340	3,678,998	463,320	124,569,188	6,887,694	482,785	7,370,479	131,939,667
5. Tidewater	-	11,714	-	-	8,251	-	-	1,887	37,016,420	-	-	-	-
6. Lake	-	-	-	-	-	-	-	-	55,730,915	-	-	-	-
7. Truck 6/	762,428	498,431	33,819	102,082	207,655	108,214	54,027	330,079	24,129,713	-	-	-	24,129,713
8. Distributors and Wholesalers (Destination and Use Unknown)	-	35,146	-	78,283	100,355	-	46,852	39,825	3,643,785	-	-	-	3,643,785

TABLE 1.

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 (Continued)

REGION, STATE AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
9. Private Railroads Tramways & Conveyors	412,536	1,342,876	436,246	50,570	-	965,057	176,546	448,154	60,111	118,889	543,293	-	442,902	-	40,155
10. Coal used at mine 7/	613,072	409,861	140,476	101,342	8,790	3,538	777,252	855,537	97,064	1,173,353	158,190	19,509	188,118	10,289	48,095
11. Other disposals not specified above	3,629	69,852	373	10,758	-	-	586	20,902	274	2,957	55	-	52	139	170
12. Net change in Inventory	-12,298	14,629	39,960	8,353	640	-4,914	-94,509	-158,989	-7,110	-11,697	22,325	1,704	6,522	1,775	-1,068
Total Production Reported	51,288,987	81,557,562	43,248,992	31,356,467	114,420	5,036,041	59,954,148	118,754,070	16,097,411	75,513,979	26,976,331	1,724,533	18,479,139	1,984,854	9,926,664
13. Estimated Truck Production not Reported 8/	2,089,599	2,080,184	582,834	1,285,437	20,992	221,151	176,923	3,063,869	1,574,662	356,003	276,755	314,916	736,265	58,149	540,923
GRAND TOTAL	53,378,586	83,637,746	43,831,826	32,641,904	135,412	5,257,192	60,131,071	121,817,939	17,672,073	75,869,982	27,253,086	2,039,449	19,215,404	2,043,003	10,467,587

1/ Includes shipments by truck to byproduct and beehive coke ovens away from the producing mine and for smithing use as follows: District 1, 61,379 tons; District 2, 1,355,368 tons; District 3, 18,931 tons; District 10, 114,888 tons; District 13, 15,741 tons; District 17, 236 tons; District 19, 53 tons; District 23, 2,907 tons.

2/ Represents the distribution of coal that moved from the mines via Lake and tidewater during this period to consumer states. The total tonnages arrived at in these columns represent the tonnages of interport shipments for all consumer uses (excluding shipments to all storage docks excepting those in Canada) plus the tonnages of ex-dock shipments as shown on Tables Nos. 2 and 3.

3/ Includes shipments to beehive coke ovens also.

4/ Certain transshippers are delinquent in filing data required, particularly with respect to movements of coal for account of Canadian distributors who themselves arrange for transshipment. The total reported shipments of bituminous coal to Canada during the year ended March 31, 1945, including railroad fuel, was about 21,496,000 tons and accounts for 91.4 percent of the grand total shipments to Canada. Reported shipments of railroad fuel to Canada are included in Item 4, "Railroad Fuel."

5/ The item export includes only such shipments to tidewater ports for cargoes destined to points outside the United States and Canada as are reported to this office. The tonnages shown here are not all inclusive.

6/ Includes only mines with an average daily capacity of 50 tons or more and all mines with rail or river connections that report on Forms S.F.A. Nos. 38 and 56.

7/ Includes coal used to produce coal, coal used by mine employees, and coal made into briquets or packaged fuel at the reporting mine.

8/ Represents the total truck tonnage reported for the calendar year 1944 less (1) tonnages included in Rail, River and Ex-river movement for shipments by truck to byproduct and beehive coke ovens away from the producing mine and for smithing use and (2) truck tonnage shown in Item 7. These approximate tonnages were those produced at small truck mines not required to report on Forms S.F.A. Nos. 38 and 56.

TABLE 1.

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945 (Continued)

REGION, STATE AND USE	DISTRICT OF ORIGIN								Distribution of Total Production Reported on Forms S.F.A. Nos. 38 and 56	Waterborne Shipments via Lake and Tidewater 2/			Grand Total Distribution
	16	17	18	19	20	21	22	23		Great Lakes	Tidewater	Total	
9. Private Railroads Tramways & Conveyors	19,972	8,927	17,907	-	1,911	-	-	22,830	5,108,882	-	-	-	5,108,882
10. Coal used at mine 7/	57,414	116,765	26,326	132,304	28,129	120,195	16,541	27,263	5,129,423	-	-	-	5,129,423
11. Other disposals not specified above	277	-	-	1,280	105	-	1,553	163	113,125	-	-	-	113,125
12. Net change in Inventory	2,155	446	-9,931	208	-4,928	-377	1,173	20,957	-184,974	-	-	-	-184,974
Total Production Reported	2,352,009	6,271,753	484,122	9,555,183	6,958,340	2,083,612	4,745,157	1,399,939	575,863,713	56,997,028	35,608,663	92,605,691	575,722,069
13. Estimated Truck Production not Reported 8/	34,800	216,885	66,026	62,463	98,182	321,151	116,571	129,067	14,423,807	-	-	-	14,423,807
GRAND TOTAL	2,386,809	6,488,638	550,148	9,617,646	7,056,522	2,404,763	4,861,728	1,529,006	590,287,520	56,997,028	35,608,663	92,605,691	590,145,876

SHIPMENTS OF BITUMINOUS COAL VIA TIDEWATER TO ALONGSIDE CONSUMERS AND EX-DOCK SHIPMENTS FROM COMMERCIAL DOCKS AS REPORTED ON CARGO MANIFESTS, INVOICES, SUMMARY REPORTS AND FORM S.F.A. NO. 48 DURING THE YEAR ENDED MARCH 31, 1945, BY DISTRICT OF ORIGIN, STATE OF DESTINATION AND USE.1/
(In net tons of 2,000 pounds)

TABLE 2

State of Destination and Use	DISTRICT OF ORIGIN (Interport shipments only to alongside consumers)									Total shipments to alongside consumers	Ex-dock shipments from commercial docks 2/	Grand Total
	1	2	3	7	8	10	13	20	Unknown			
Connecticut												
Total	136,443	13,178	5,577	719,464	444,718	-	-	-	-	1,319,380	1,742,198	3,061,578
Industrial	127,165	13,178	2,233	498,467	47,891	-	-	-	-	688,934	1,200,798	1,889,732
Retail Dealers	9,278	-	3,344	11,950	2,837	-	-	-	-	27,409	537,387	564,796
Byproduct	-	-	-	207,965	387,414	-	-	-	-	595,379	-	595,379
Water Gas	-	-	-	1,082	6,576	-	-	-	-	7,658	4,013	11,671
Delaware												
Total	96	-	-	-	-	-	-	-	-	96	-	96
Industrial	96	-	-	-	-	-	-	-	-	96	-	96
Maine												
Total	-	-	-	255,677	3,700	-	-	-	-	259,377	1,096,551	1,355,928
Industrial	-	-	-	228,321	-	-	-	-	-	228,321	677,943	906,264
Retail Dealers	-	-	-	27,356	3,700	-	-	-	-	31,056	416,575	447,631
Water Gas	-	-	-	-	-	-	-	-	-	-	1,605	1,605
Smithing	-	-	-	-	-	-	-	-	-	-	428	428
Maryland												
Total	1,189,459	16,618	4,956	34,691	-	-	-	-	-	1,245,724	13	1,245,737
Industrial	1,188,879	4,310	1,699	52	-	-	-	-	-	1,194,940	13	1,194,953
Byproduct	580	-	-	34,639	-	-	-	-	-	35,219	-	35,219
Water Gas	-	12,308	3,257	-	-	-	-	-	-	15,565	-	15,565
Massachusetts												
Total	62,665	3,114	1,390	2,054,300	238,226	-	-	-	-	2,359,695	4,545,810	6,905,505
Industrial	61,075	1,405	1,390	1,880,001	95,633	-	-	-	-	2,039,504	1,000,854	3,040,358
Retail Dealers	1,590	1,709	-	135,664	2,595	-	-	-	-	141,558	1,923,822	2,065,380
Byproduct	-	-	-	7,851	-	-	-	-	-	7,851	1,620,774	1,628,625
Water Gas	-	-	-	30,784	139,998	-	-	-	-	170,782	360	171,142
New Hampshire												
Total	-	-	-	1,768	-	-	-	-	-	1,768	390,401	392,169
Industrial	-	-	-	1,768	-	-	-	-	-	1,768	234,394	236,162
Retail Dealers	-	-	-	-	-	-	-	-	-	-	155,856	155,856
Water Gas	-	-	-	-	-	-	-	-	-	-	151	151
New Jersey												
Total	1,707,344	104,571	622,408	1,374,636	902,677	-	-	-	-	4,711,636	-	4,711,636
Industrial	1,703,905	104,571	621,632	930,051	-	-	-	-	-	3,360,159	-	3,360,159
Retail Dealers	3,439	-	776	-	-	-	-	-	-	4,215	-	4,215
Byproduct	-	-	-	367,785	902,677	-	-	-	-	1,270,462	-	1,270,462
Water Gas	-	-	-	76,800	-	-	-	-	-	76,800	-	76,800
New York												
Total	6,834,885	191,563	651,235	1,033,439	997,575	-	-	-	226	9,708,923	251,633	9,960,556
Industrial	6,027,908	139,549	555,891	140,678	19,983	-	-	-	-	6,884,009	-	6,884,009
Retail Dealers	801,493	52,014	90,141	161,352	8,762	-	-	-	226	1,113,988	251,633	1,365,621
Byproduct	-	-	352	590,094	88,838	-	-	-	-	679,284	-	679,284
Water Gas	5,484	-	4,851	141,315	879,992	-	-	-	-	1,031,642	-	1,031,642
Pennsylvania												
Total	2,430,014	2,121	103,307	362,464	77,245	-	-	-	-	2,975,151	-	2,975,151
Industrial	2,430,014	2,121	102,814	16,357	-	-	-	-	-	2,551,306	-	2,551,306
Byproduct	-	-	493	346,107	77,245	-	-	-	-	423,845	-	423,845
Rhode Island												
Total	7,665	-	-	450,338	242,758	-	-	-	-	700,761	994,864	1,695,625
Industrial	7,665	-	-	267,888	13,018	-	-	-	-	288,571	63,750	352,321
Retail Dealers	-	-	-	1,160	53	-	-	-	-	1,213	931,114	932,327
Byproduct	-	-	-	84,113	48,607	-	-	-	-	132,720	-	132,720
Water Gas	-	-	-	97,177	181,080	-	-	-	-	278,257	-	278,257
Vermont												
Total	-	-	-	-	-	-	-	-	-	-	22,889	22,889
Industrial	-	-	-	-	-	-	-	-	-	-	22,788	22,788
Retail Dealers	-	-	-	-	-	-	-	-	-	-	101	101
Virginia												
Total	1,161	-	-	16,355	-	-	-	-	-	17,516	-	17,516
Industrial	1,161	-	-	15,785	-	-	-	-	-	16,946	-	16,946
Retail Dealers	-	-	-	570	-	-	-	-	-	570	-	570
Unknown State												
Total	-	-	-	1,300	1,747	-	-	-	-	3,047	-	3,047
Retail Dealers	-	-	-	1,300	1,747	-	-	-	-	3,047	-	3,047
United States												
Total	12,369,732	331,165	1,388,873	6,304,432	2,908,646	-	-	-	226	23,303,074	9,044,359	32,347,433
Industrial	11,547,868	265,134	1,285,659	3,979,368	176,525	-	-	-	-	17,254,554	3,200,540	20,455,094
Retail Dealers	815,800	53,723	94,261	339,352	19,694	-	-	-	226	1,323,056	4,216,488	5,539,544
Byproduct	580	-	845	1,638,554	1,504,781	-	-	-	-	3,144,760	1,620,774	4,765,534
Water Gas	5,484	12,308	8,108	347,158	1,207,646	-	-	-	-	1,580,704	6,129	1,586,833
Smithing	-	-	-	-	-	-	-	-	-	-	428	428
Canada												
Total	8,686	-	14,306	40,058	30,291	-	-	-	218	93,559	-	93,559
Industrial	-	-	1,477	-	-	-	-	-	-	1,477	-	1,477
Use not reported	8,686	-	12,829	40,058	30,291	-	-	-	218	92,082	-	92,082
United States and Canada												
Total	12,378,418	331,165	1,403,179	6,344,490	2,938,937	-	-	-	444	23,396,633	9,044,359	32,440,992
Industrial	11,547,868	265,134	1,287,136	3,979,368	176,525	-	-	-	-	17,256,031	3,200,540	20,456,571
Retail Delaers	815,800	53,723	94,261	339,352	19,694	-	-	-	226	1,323,056	4,216,488	5,539,544
Byproduct	580	-	845	1,638,554	1,504,781	-	-	-	-	3,144,760	1,620,774	4,765,534
Water Gas	5,484	12,308	8,108	347,158	1,207,646	-	-	-	-	1,580,704	6,129	1,586,833
Smithing	-	-	-	-	-	-	-	-	-	-	428	428
Use not reported	8,686	-	12,829	40,058	30,291	-	-	-	218	92,082	-	92,082
Railroad Fuel	-	968	25,784	1,394	413,677	-	-	-	-	441,823	40,962	482,785
Bunker Fuel	352,656	9,682	148,593	511,811	68,220	416	23,346	3,037	2,945	1,120,706	36,511	1,157,217
Exports Overseas 3/	157,004	17,114	172,794	643,592	468,649	48,529	1,524	-	18,463	1,527,669	-	1,527,669
GRAND TOTAL	12,888,078	358,929	1,750,350	7,501,287	3,889,483	48,945	24,870	3,037	21,852	26,486,831	9,121,832	35,608,663

1/ Represents the distribution of coal that moved from the mines via tidewater during the year ended March 31, 1945 to consumer states, by uses.
2/ District of origin of coal moving from commercial docks not ascertainable.
3/ This item includes only such shipments to tidewater ports for cargoes destined to points outside the United States and Canada as are reported to this office. The tonnages shown are not all inclusive.

SHIPMENTS OF BITUMINOUS COAL VIA GREAT LAKES TO ALONGSIDE CONSUMERS AND EX-DOCK SHIPMENTS FROM COMMERCIAL DOCKS AS REPORTED ON CARGO MANIFESTS, INVOICES, SUMMARY REPORTS AND FORM S.F.A. NO. 48 DURING THE YEAR ENDED MARCH 31, 1945, BY DISTRICT OF ORIGIN, STATE OF DESTINATION AND USE. 1/
(In net tons of 2,000 pounds)

TABLE 3

State of Destination and Use	DISTRICT OF ORIGIN (Interport shipments only to alongside consumers)									Total shipments to alongside Consumers	Ex-dock shipments from Commercial Docks 2/	Grand Total
	1	2	3	4	6	7	8	9	10			
Illinois												
Total	-	475,349	-	-	-	500,523	1,116,948	-	-	2,092,820	146,063	2,238,883
Industrial	-	-	-	-	-	-	-	-	-	-	75,306	75,306
Retail Dealers	-	-	-	-	-	5,179	8,941	-	-	14,120	70,627	84,747
Byproduct	-	475,349	-	-	-	493,817	1,103,750	-	-	2,072,916	-	2,072,916
Water Gas	-	-	-	-	-	1,527	4,257	-	-	5,784	-	5,784
Smithing	-	-	-	-	-	-	-	-	-	-	130	130
Indiana												
Total	-	30,520	-	-	-	2,289,522	1,312,331	-	-	3,632,373	-	3,632,373
Byproduct	-	30,520	-	-	-	2,289,522	1,312,331	-	-	3,632,373	-	3,632,373
Iowa												
Total	-	-	-	-	-	-	-	-	-	-	127,097	127,097
Industrial	-	-	-	-	-	-	-	-	-	-	941	941
Retail Dealers	-	-	-	-	-	-	-	-	-	-	126,043	126,043
Water Gas	-	-	-	-	-	-	-	-	-	-	52	52
Smithing	-	-	-	-	-	-	-	-	-	-	61	61
Michigan												
Total	239,462	1,949,532	299,534	235,684	-	1,431,861	6,613,722	-	3,042	10,772,837	1,431,498	12,204,335
Industrial	237,753	1,411,384	115,931	223,890	-	577,672	4,278,935	-	-	6,845,565	599,826	7,445,391
Retail Dealers	1,709	-	-	11,794	-	7,181	345,629	-	3,042	369,355	815,971	1,185,326
Byproduct	-	528,432	183,603	-	-	847,008	1,986,710	-	-	3,545,753	15,372	3,561,125
Water Gas	-	9,716	-	-	-	-	2,448	-	-	12,164	-	12,164
Smithing	-	-	-	-	-	-	-	-	-	-	329	329
Minnesota												
Total	-	35,443	-	-	-	-	8,177	-	-	43,620	3,802,920	3,846,540
Industrial	-	35,443	-	-	-	-	8,177	-	-	43,620	1,218,266	1,261,886
Retail Dealers	-	-	-	-	-	-	-	-	-	-	2,126,271	2,126,271
Byproduct	-	-	-	-	-	-	-	-	-	-	450,541	450,541
Water Gas	-	-	-	-	-	-	-	-	-	-	5,041	5,041
Smithing	-	-	-	-	-	-	-	-	-	-	2,801	2,801
Montana												
Total	-	-	-	-	-	-	-	-	-	-	42	42
Smithing	-	-	-	-	-	-	-	-	-	-	42	42
Nebraska												
Total	-	-	-	-	-	-	-	-	-	-	8,725	8,725
Industrial	-	-	-	-	-	-	-	-	-	-	1	1
Retail Dealers	-	-	-	-	-	-	-	-	-	-	8,724	8,724
New York												
Total	746,762	1,094,498	488,271	-	17,567	742,676	129,826	-	-	3,219,600	40,324	3,259,924
Industrial	743,208	102,077	485,789	-	15,948	-	-	-	-	1,347,022	40,324	1,387,346
Retail Dealers	3,554	34,441	633	-	1,619	-	2,305	-	-	42,552	-	42,552
Byproduct	-	957,980	1,849	-	-	742,676	127,521	-	-	1,830,026	-	1,830,026
North Dakota												
Total	-	-	-	-	-	-	-	-	-	-	210,380	210,380
Industrial	-	-	-	-	-	-	-	-	-	-	26,911	26,911
Retail Dealers	-	-	-	-	-	-	-	-	-	-	183,347	183,347
Water Gas	-	-	-	-	-	-	-	-	-	-	41	41
Smithing	-	-	-	-	-	-	-	-	-	-	81	81
Ohio												
Total	-	-	-	-	-	131,776	338,049	-	-	469,825	17	469,842
Retail Dealers	-	-	-	-	-	316	799	-	-	1,115	17	1,132
Byproduct	-	-	-	-	-	131,460	337,250	-	-	468,710	-	468,710
Oregon												
Total	-	-	-	-	-	-	-	-	-	-	41	41
Industrial	-	-	-	-	-	-	-	-	-	-	41	41
Pennsylvania												
Total	-	-	-	-	-	68,174	169,862	-	-	238,036	-	238,036
Byproduct	-	-	-	-	-	68,174	169,862	-	-	238,036	-	238,036
South Dakota												
Total	-	-	-	-	-	-	-	-	-	-	358,661	358,661
Industrial	-	-	-	-	-	-	-	-	-	-	8,868	8,868
Retail Dealers	-	-	-	-	-	-	-	-	-	-	349,696	349,696
Smithing	-	-	-	-	-	-	-	-	-	-	97	97
Wisconsin												
Total	155,279	449,807	339,916	-	1,912	373,147	1,393,343	-	3,669	2,717,073	6,222,301	8,939,374
Industrial	155,279	388,009	332,419	-	1,912	35,234	278,071	-	3,669	1,194,593	2,393,824	3,588,417
Retail Dealers	-	7,981	-	-	-	14,163	42,434	-	-	64,578	3,684,667	3,749,245
Byproduct	-	53,817	7,497	-	-	323,750	989,916	-	-	1,374,980	109,893	1,484,873
Water Gas	-	-	-	-	-	-	82,922	-	-	82,922	3,597	86,519
Smithing	-	-	-	-	-	-	-	-	-	-	778	778
Storage	-	-	-	-	-	-	-	-	-	-	29,542	29,542
United States												
Total	1,141,503	4,035,149	1,127,721	235,684	19,479	5,537,679	11,082,258	-	6,711	23,186,184	12,348,069	35,534,253
Industrial	1,136,240	1,936,913	934,139	223,890	17,860	612,906	4,565,183	-	3,669	9,430,800	4,364,308	13,795,108
Retail Dealers	5,263	42,422	633	11,794	1,619	26,839	400,108	-	3,042	491,720	7,365,363	7,857,083
Byproduct	-	2,046,098	192,949	-	-	4,896,407	6,027,340	-	-	13,162,794	575,806	13,738,600
Water Gas	-	9,716	-	-	-	1,527	89,627	-	-	100,870	8,731	109,601
Smithing	-	-	-	-	-	-	-	-	-	-	4,319	4,319
Storage	-	-	-	-	-	-	-	-	-	-	29,542	29,542
Canada (Excludes railroad fuel)												
Total	1,808,216	2,163,578	1,851,552	371,935	223,930	1,225,782	4,330,151	-	-	11,975,144	14,073	11,989,217
Industrial	486,126	334,286	537,157	126,444	6,734	428,428	635,185	-	-	2,554,360	3,660	2,558,020
Retail Dealers	2,387	-	5,388	-	-	2,526	3,938	-	-	14,239	10,413	24,652
Byproduct	144,631	837,954	42,774	-	-	329,934	1,696,366	-	-	3,051,659	-	3,051,659
Water Gas	-	102,609	-	-	-	-	89,695	-	-	192,304	-	192,304
Storage or Consignment 3/	1,175,072	888,729	1,266,233	245,491	217,196	464,894	1,904,967	-	-	6,162,582	-	6,162,582
United States and Canada												
Total	2,949,719	6,198,727	2,979,273	607,619	243,409	6,763,461	15,412,409	-	6,711	35,161,328	12,362,142	47,523,470
Industrial	1,622,366	2,271,199	1,471,296	350,334	24,594	1,041,334	5,200,368	-	3,669	11,985,160	4,367,968	16,353,128
Retail Dealers	7,650	42,422	6,021	11,794	1,619	29,365	404,046	-	3,042	505,959	7,375,776	7,881,735
Byproduct	144,631	2,884,052	235,723	-	-	5,226,341	7,723,706	-	-	16,214,453	575,806	16,790,259
Water Gas	-	112,325	-	-	-	1,527	179,322	-	-	293,174	8,731	301,905
Smithing	-	-	-	-	-	-	-	-	-	-	4,319	4,319
Storage or Consignment 3/	1,175,072	888,729	1,266,233	245,491	217,196	464,894	1,904,967	-	-	6,162,582	29,542	6,192,124
Railroad Fuel-United States & Canada	36,264	503,108	431,858	2,025,662	118,288	-	263,892	658,037	843,826	4,880,935	2,006,759	6,887,694
Vessel Fuel	12,021	387,465	69,694	523,338	39,750	54	423,661	-	-	1,455,983	1,129,881	2,585,864
GRAND TOTAL	2,998,004	7,089,300	3,480,825	3,156,619	401,447	6,763,515	16,099,962	658,037	850,537	41,498,246	15,498,782	56,997,028

1/ Represents the distribution of coal that moved from the mines via Great Lakes during the year ended March 31, 1945 to consumer states, by uses.
2/ District of origin of coal moving from commercial docks not ascertainable.
3/ Interport movement to Canada for storage or consignment is shown since Canadian Dock Operators are not required to file Form S.F.A. No. 48 reporting distribution from Commercial docks.

TABLE 4

SHIPMENTS OF BITUMINOUS COAL AND LIGNITE DURING THE YEAR ENDED MARCH 31, 1945, BY DISTRICT OF ORIGIN, USE, CONSOLIDATED SIZE GROUP AND METHOD OF MOVEMENT AS REPORTED ON FORMS S.F.A. NOS. 38, 48, AND 56, AND CARGO MANIFESTS, INVOICES, AND SUMMARY REPORTS.
(In net tons of 2,000 pounds)

Size Group and Movement / District and Use	All Lump Coal and All Double Screened Coal with Top Size Over 2" (1)					All Double Screened Coal with Top Size not exceeding 2" (2)					M/R Mod. M/R Dom. M/R Screened and Altered M/R and Minus Resultant with Top Size Over 2" (3)					All Minus Resultant and Dedusted Screenings with Top Size Over 3/4" and not exceeding 2" (4)				
	All Rail River and Ex-River 1/	Interport 2/		Truck 3/	Total	All Rail River and Ex-River 1/	Interport 2/		Truck 3/	Total	All Rail River and Ex-River 1/	Interport 2/		Truck 3/	Total	All Rail River and Ex-River 1/	Interport 2/		Truck 3/	Total
		Tidewater	Lake				Tidewater	Lake				Tidewater	Lake				Tidewater	Lake		
District 1. Eastern Pennsylvania																				
Total	2,302,535	195,306	154,181	138,999	2,791,021	1,546,126	354,052	382,986	48,227	2,331,391	22,469,536	9,558,055	1,112,489	973,891	34,113,971	3,165,213	439,697	404,926	73,128	4,073,964
Railroad Fuel	450,029	-	32,238	-	482,267	63,319	-	-	-	63,319	7,731,342	-	287	-	7,731,629	53,964	-	-	-	53,964
Industrial	799,609	58,579	26,738	-	884,926	976,824	74,528	102,457	-	1,153,809	10,086,525	8,743,020	647,530	-	19,477,075	2,056,729	406,554	167,047	-	2,630,330
Retail Dealers	975,450	57,346	2,577	-	1,035,373	446,851	275,685	-	-	722,536	1,142,836	400,220	5,073	-	1,548,129	174,412	20,986	-	-	195,398
Byproduct and Water Gas 5/	73,318	-	20,499	-	93,817	58,146	-	-	-	58,146	3,273,964	3,616	-	-	3,277,580	874,117	2,448	-	-	876,565
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	-	-	61,639	-	61,639	-	-	279,758	-	279,758	1,068	-	458,890	-	459,958	-	-	237,833	-	237,833
Bunker and Vessel Fuel	-	70,859	10,490	-	81,349	-	3,839	771	-	4,610	-	260,976	709	-	261,685	-	709	46	-	755
Export 6/	-	8,522	-	-	8,522	-	-	-	-	-	-	141,537	-	-	141,537	-	-	-	-	-
Use not Reported	4,129	-	-	138,999	143,128	986	-	-	48,227	49,213	233,801	8,686	-	973,891	1,216,378	5,991	-	-	73,128	79,119
District 2. Western Pennsylvania																				
Total	6,563,639	28,952	1,022,108	1,629,947	9,244,646	1,968,306	101,522	387,066	375,062	2,831,956	51,933,705	149,722	4,611,097	1,207,569	57,902,093	5,664,466	16,877	894,641	827,190	7,403,174
Railroad Fuel	1,545,511	-	259,261	-	1,804,772	176,806	-	-	-	176,806	8,747,293	968	243,847	-	8,992,108	743,694	-	-	-	743,694
Industrial	2,149,154	10,303	50,777	-	2,210,234	1,198,899	91,165	60,490	-	1,350,554	8,991,258	120,746	1,905,383	-	11,017,387	2,872,701	4,425	126,980	-	3,004,106
Retail Dealers	2,072,420	13,095	309	-	2,085,824	569,768	10,357	12,356	-	592,481	127,044	6,982	8,055	-	142,081	176,614	144	21,702	-	198,460
Byproduct and Water Gas 5/	729,708	-	242,141	-	971,849	4,712	-	76,616	-	81,328	33,560,938	-	2,233,771	-	35,794,709	1,777,489	12,308	416,789	-	2,206,586
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	14,554	-	210,318	-	224,872	136	-	229,251	-	229,387	-	-	198,890	-	198,890	-	-	230,877	-	230,877
Bunker and Vessel Fuel	-	1,203	259,302	-	260,505	-	-	8,353	-	8,353	-	8,263	21,151	-	29,414	-	-	98,293	-	98,293
Export 6/	-	4,351	-	-	4,351	-	-	-	-	-	-	12,763	-	-	12,763	-	-	-	-	-
Use not Reported	52,292	-	-	1,629,947	1,682,239	17,985	-	-	375,062	393,047	507,172	-	-	1,207,569	1,714,741	93,968	-	-	827,190	921,158
District 3. Northern West Virginia																				
Total	6,894,561	673,346	1,024,955	76,901	8,669,763	2,801,301	187,802	294,516	47,335	3,330,954	20,761,887	442,017	623,863	72,587	21,900,354	2,499,852	45,328	674,357	4,106	3,223,643
Railroad Fuel	3,713,761	24,608	415,014	-	4,153,383	286,963	-	2,305	-	289,268	9,768,405	1,176	8,075	-	9,777,656	76,193	-	-	-	76,193
Industrial	1,215,055	455,059	106,418	-	1,776,532	1,479,511	166,922	8,850	-	1,655,283	5,203,373	249,647	291,916	-	5,744,936	2,189,496	44,560	421,948	-	2,656,004
Retail Dealers	1,521,689	26,308	633	-	1,548,630	1,025,025	16,427	1,017	-	1,042,469	571,733	21,578	-	-	593,311	196,662	690	2,372	-	199,724
Byproduct and Water Gas 5/	367,543	-	28,735	-	396,278	9,802	-	-	-	9,802	4,993,034	8,953	204,021	-	5,206,008	16,320	-	2,435	-	18,755
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	109	-	408,406	-	408,515	-	-	279,967	-	279,967	946	-	119,659	-	120,605	-	-	246,832	-	246,832
Bunker and Vessel Fuel	-	63,555	65,749	-	129,304	-	1,158	2,377	-	3,535	-	82,151	192	-	82,343	-	78	770	-	848
Export 6/	-	93,662	-	-	93,662	-	3,295	-	-	3,295	-	75,837	-	-	75,837	-	-	-	-	-
Use not Reported	76,404	10,154	-	76,901	163,459	-	-	-	47,335	47,335	224,396	2,675	-	72,587	299,658	21,181	-	-	4,106	25,287
District 4. Ohio																				
Total	4,076,711	-	1,124,045	1,025,568	6,226,324	945,530	-	115,372	310,476	1,371,378	9,898,473	-	1,628,536	1,987,410	13,514,419	4,933,223	-	236,504	698,621	5,868,348
Railroad Fuel	1,390,124	-	481,045	-	1,871,169	28,580	-	1,819	-	30,399	8,088,188	-	1,540,147	-	9,628,335	268,470	-	1,057	-	269,527
Industrial	754,995	-	22,546	-	777,541	613,040	-	45,366	-	658,406	1,704,729	-	59,741	-	1,764,470	4,367,942	-	184,537	-	4,552,479
Retail Dealers	1,912,632	-	2,989	-	1,915,621	303,542	-	7,238	-	310,780	70,441	-	1,567	-	72,008	281,122	-	-	-	281,122
Byproduct and Water Gas	-	-	-	-	-	-	-	-	-	-	10,555	-	-	-	10,555	3,334	-	-	-	3,334
Storage	-	-	107,923	-	107,923	-	-	53,227	-	53,227	-	-	25,477	-	25,477	-	-	47,723	-	47,723
Bunker and Vessel Fuel	-	-	509,542	-	509,542	-	-	7,722	-	7,722	-	-	1,604	-	1,604	-	-	3,187	-	3,187
Use not Reported	18,960	-	-	1,025,568	1,044,528	368	-	-	310,476	310,844	24,560	-	-	1,987,410	2,011,970	12,355	-	-	698,621	710,976
District 5. Michigan																				
Total	35,997	-	-	35,614	71,611	1,501	-	-	-	1,501	5,536	-	-	-	5,536	11,811	-	-	14,531	26,342
Railroad Fuel	10,136	-	-	-	10,136	1,501	-	-	-	1,501	-	-	-	-	-	-	-	-	-	-
Industrial	604	-	-	-	604	-	-	-	-	-	5,484	-	-	-	5,484	7,686	-	-	-	7,686
Retail Dealers	25,257	-	-	-	25,257	-	-	-	-	-	52	-	-	-	52	4,125	-	-	-	4,125
Use not Reported	-	-	-	35,614	35,614	-	-	-	-	-	-	-	-	-	-	-	-	-	14,531	14,531
District 6. Panhandle																				
Total	376,986	-	220,585	211,951	809,522	174,934	-	70,076	24,600	269,610	2,923,296	-	21,723	300,469	3,245,488	161,582	-	36,176	64,022	261,780
Railroad Fuel	101,938	-	82,237	-	184,175	4,034	-	19,251	-	23,285	1,162,600	-	16,800	-	1,179,400	15,429	-	-	-	15,429
Industrial	152,982	-	4,082	-	157,064	99,277	-	-	-	99,277	1,743,212	-	1,912	-	1,745,124	130,056	-	5,577	-	135,633
Retail Dealers	73,581	-	1,619	-	75,200	63,799	-	-	-	63,799	1,464	-	-	-	1,464	11,128	-	-	-	11,128
Storage	-	-	97,116	-	97,116	-	-	50,627	-	50,627	-	-	2,758	-	2,758	-	-	27,568	-	27,568
Bunker and Vessel Fuel	-	-	35,531	-	35,531	-	-	198	-	198	-	-	253	-	253	-	-	3,031	-	3,031
Use not Reported	48,485	-	-	211,951	260,436	7,824	-	-	24,600	32,424	16,020	-	-	300,469	316,489	4,969	-	-	64,022	68,991
District 7. Southern No. 1																				
Total	9,854,491	149,204	247,886	107,134	10,358,715	3,952,257	131,649	265,401	46,108	4,395,415	10,038,901	2,938,949	2,628,383	28,310	15,634,543	2,650,040	741,030	198,457	216	3,589,743
Railroad Fuel	64,722	-	-	-	64,722	14,968	-	-	-	14,968	681,846	1,394	-	-	683,240	55,277	-	-	-	55,277
Industrial	267,675	1,225	-	-	268,900	355,353	52	42,188	-	397,593	2,089,190	683,944	475,155	-	3,248,289	2,189,386	678,964	64,482	-	2,932,832
Retail Dealers	9,490,920	3,068	17,775	-	9,511,763	3,554,115	120,354	11,590	-	3,686,059	2,797,504	142,585	-	-	2,940,089	314,046	51,851	-	-	365,897
Byproduct and Water Gas 5/	6,526	1,362	10,477	-	18,365	13,088	2,981	643	-	16,712	4,212,886	1,227,610	2,127,076	-	7,567,572	77,078	3,497	130,060	-	210,635
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	-	-	219,580	-	219,580	2,120	-	210,980	-	213,100	2,338	-	26,152	-	28,490	10,666	-	3,915	-	14,581
Bunker and Vessel Fuel	-	67,145	54	-	67,199	-	4,606	-	-	4,606	-	337,501	-	-	337,501	-	6,260	-	-	6,260
Export 6/	-	73,170	-	-	73,170	-	2,886	-	-	2,886	-	509,861	-	-	509,861	-	458	-	-	458
Use not Reported	24,648	3,234	-	107,134	135,016	12,613	770	-	46,108	59,491	255,137	36,054	-	28,310	319,501	3,587	-	-	216	3,803
District 8. Southern No. 2																				
Total	25,398,351	659,258	2,601,916	688,277	29,347,802	6,750,128	187,039	848,034	38,698	7,823,899	28,575,582	2,620,308	7,501,440	183,426	38,880,756	20,680,038	332,585	4,598,465	28,611	25,639,699
Railroad Fuel	1,190,541	18,741	36,633	-	1,245,915	276,408	-	-	-	276,408	12,507,741	383,650	121,588	-	13,012,979	2,044,578	5,085	105,671	-	2,155,334
Industrial	3,650,474	28,579	439,746	-	4,118,799	1,422,641	7,544	116,141	-	1,546,326	6,391,641	92,893	1,660,812	-	8,145,346	14,206,088	13,844	2,674,852	-	16,894,784
Retail Dealers	19,404,865	9,072	249,331	-	19,663,268	4,702,841	5,652	96,627	-	4,805,120	380,179	2,323	9,657	-	392,159	2,130,902	1,994	46,160	-	2,179,056
Byproduct and Water Gas 5/	938,383	260,458	873,497	-	2,072,338	319,620	155,588	96,126	-	571,334	8,609,021	1,945,198	5,453,777	-	16,007,996	2,052,106	303,737	1,299,587	-	3,655,430
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	65,840	-	685,689	-	751,529	13,329	-	534,911	-	548,240	30,493	-	252,152	-	282,645	101,980	-	375,472	-	477,452
Bunker and Vessel Fuel	-	32,087	317,020	-	349,107	-	379	4,229	-	4,608	-	32,676	3,454	-	36,130	-	3,078	96,723	-	99,801
Export 6/	-	292,200	-	-	292,200	-	17,876	-	-	17,876	-	151,398	-	-	151,398	-	4,847	-	-	4,847
Use not Reported	148,248	18,121	-	688,277	854,646	15,289	-	-	38,698	53,987	656,507	12,170	-	183,426	852,103	144,384	-	-	28,611	172,995

SHIPMENTS OF BITUMINOUS COAL AND LIGNITE DURING THE YEAR ENDED MARCH 31, 1945, BY DISTRICT OF ORIGIN, USE, CONSOLIDATED SIZE GROUP AND METHOD OF MOVEMENT AS REPORTED ON FORMS S.F.A. NOS. 38, 48, AND 56, AND CARGO MANIFESTS, INVOICES, AND SUMMARY REPORTS.

(In net tons of 2,000 pounds)

TABLE 4

Size Group and Movement	All Minus Resultant and Deducted Screenings with Top Size not exceeding 3/4" (5)					Total Columns 1 through 5 (6)					Size not reported (7)					Other disposals, use and size not specified (8)	Coal used at mines 4/ (9)	Net change in inventory (10)	Grand total Columns 6 through 10 (11)
	All-rail, River and Ex-river 1/	Interport 2/		Truck 3/	Total	All-rail River and Ex-river 1/	Interport 2/		Truck 3/	Total	All-rail, River and Ex-river 1/	Interport 2/		Truck 3/	Total				
District and Use		Tidewater	Lake				Tidewater	Lake				Tidewater	Lake						
District 1. Eastern Pennsylvania																			
Total	4,481,794	2,279,840	942,671	92,049	7,796,354	33,965,204	12,817,950	2,997,253	1,326,294	51,106,701	219,002	70,128	751	10,887	300,768	3,629	613,072	- 12,298	52,011,872
Railroad Fuel	258,768	-	3,739	-	262,507	8,557,422	-	36,264	-	8,593,686	9,928	-	-	-	9,928				
Industrial	3,651,601	2,247,756	678,594	-	6,577,951	17,571,288	11,530,437	1,622,366	-	30,724,091	88,525	17,431	-	-	105,956				
Retail Dealers	88,014	27,909	-	-	115,923	2,827,563	782,146	- 7,650	-	3,617,359	24,155	33,654	-	-	57,809				
Byproduct and Water Gas 5/	482,608	-	124,132	-	606,740	4,762,153	6,064	144,631	-	4,912,848	-	-	-	-	-				
Smithing	-	-	-	-	-	-	-	-	-	-	87,617	-	-	-	87,617				
Storage	-	-	136,201	-	136,201	1,068	-	1,174,321	-	1,175,389	-	-	751	-	751				
Bunker and Vessel Fuel	-	2,687	5	-	2,692	-	339,070	12,021	-	351,091	-	13,586	-	-	13,586				
Export 6/	-	1,488	-	-	1,488	-	151,547	-	-	151,547	-	5,457	-	-	5,457				
Use not Reported	803	-	-	92,049	92,852	245,710	8,686	-	1,326,294	1,580,690	8,777	-	-	10,887	19,664				
District 2. Western Pennsylvania																			
Total	1,780,365	38,815	147,576	204,000	2,170,756	67,910,481	335,888	7,062,488	4,243,768	79,552,625	50,375	23,041	26,812	34,236	134,464	69,852	409,861	14,629	80,181,431
Railroad Fuel	75,422	-	-	-	75,422	11,288,726	968	503,108	-	11,792,802	26,739	-	-	-	26,739				
Industrial	1,222,808	38,311	127,569	-	1,388,688	16,434,820	264,950	2,271,199	-	18,970,969	13,467	184	-	-	13,651				
Retail Dealers	5,872	288	-	-	6,160	2,951,718	30,866	42,422	-	3,025,006	2,092	22,857	-	-	24,949				
Byproduct and Water Gas 5/	451,995	-	346	-	452,341	36,524,842	12,308	2,969,663	-	39,506,813	2,302	-	26,714	-	29,016				
Smithing	-	-	-	-	-	-	-	-	-	-	4,860	-	-	-	4,860				
Storage	-	-	19,393	-	19,393	14,690	-	888,729	-	903,419	-	-	-	-	-				
Bunker and Vessel Fuel	-	216	268	-	484	-	9,682	387,367	-	397,049	-	-	98	-	98				
Export 6/	-	-	-	-	-	-	17,114	-	-	17,114	-	-	-	-	-				
Use not Reported	24,268	-	-	204,000	228,268	695,685	-	-	4,243,768	4,939,453	915	-	-	34,236	35,151				
District 3. Northern West Virginia																			
Total	3,011,342	385,583	855,782	40	4,252,747	35,968,943	1,734,076	3,473,473	200,969	41,377,461	123,707	16,274	7,352	4,131	151,464	373	140,476	39,960	41,709,734
Railroad Fuel	73,014	-	6,464	-	79,478	13,918,336	25,784	431,858	-	14,375,978	28,907	-	-	-	28,907				
Industrial	2,728,390	370,948	640,016	-	3,739,354	12,815,825	1,287,136	1,469,148	-	15,572,109	54,055	-	2,148	-	56,203				
Retail Dealers	38,063	14,635	1,999	-	54,697	3,353,172	79,638	6,021	-	3,438,831	20,821	14,623	-	-	35,444				
Byproduct and Water Gas 5/	171,875	-	532	-	172,407	5,558,574	8,953	235,723	-	5,803,250	1,396	-	-	-	1,396				
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Storage	-	-	206,165	-	206,165	1,055	-	1,261,029	-	1,262,084	-	-	5,204	-	5,204				
Bunker and Vessel Fuel	-	-	606	-	606	-	146,942	69,694	-	216,636	-	1,651	-	-	1,651				
Export 6/	-	-	-	-	-	-	172,794	-	-	172,794	-	-	-	-	-				
Use not Reported	-	-	-	40	40	321,981	12,829	-	200,969	535,779	18,528	-	-	4,131	22,659				
District 4. Ohio																			
Total	1,710,739	-	50,879	137,757	1,899,375	21,564,676	-	3,155,336	4,159,832	28,879,844	705,399	-	1,283	41,183	747,865	10,758	101,342	8,353	29,748,162
Railroad Fuel	25,222	-	1,594	-	26,816	9,800,584	-	2,025,662	-	11,826,246	8,208	-	-	-	8,208				
Industrial	1,629,133	-	38,144	-	1,667,277	9,069,839	-	350,334	-	9,420,173	684,411	-	-	-	684,411				
Retail Dealers	41,970	-	-	-	41,970	2,609,707	-	11,794	-	2,621,501	5,066	-	-	-	5,066				
Byproduct and Water Gas	10,546	-	-	-	10,546	24,435	-	-	-	24,435	-	-	-	-	-				
Storage	-	-	11,141	-	11,141	-	-	245,491	-	245,491	-	-	-	-	-				
Bunker and Vessel Fuel	-	-	-	-	-	-	-	522,055	-	522,055	-	-	1,283	-	1,283				
Use not Reported	3,868	-	-	137,757	141,625	60,111	-	-	4,159,832	4,219,943	7,714	-	-	41,183	48,897				
District 5. Michigan																			
Total	-	-	-	-	-	54,845	-	-	50,145	104,990	-	-	-	-	-	-	8,790	640	114,420
Railroad Fuel	-	-	-	-	-	11,637	-	-	-	11,637	-	-	-	-	-				
Industrial	-	-	-	-	-	13,774	-	-	-	13,774	-	-	-	-	-				
Retail Dealers	-	-	-	-	-	29,434	-	-	-	29,434	-	-	-	-	-				
Use not Reported	-	-	-	-	-	-	-	-	50,145	50,145	-	-	-	-	-				
District 6. Panhandle																			
Total	212,898	-	52,676	16,186	281,760	3,849,696	-	401,236	617,228	4,868,160	7,945	-	211	46,138	54,294	-	3,538	- 4,914	4,921,078
Railroad Fuel	16,104	-	-	-	16,104	1,300,105	-	118,288	-	1,418,393	-	-	-	-	-				
Industrial	191,206	-	13,023	-	204,229	2,316,733	-	24,594	-	2,341,327	5,900	-	-	-	5,900				
Retail Dealers	1,426	-	-	-	1,426	151,398	-	1,619	-	153,017	-	-	-	-	-				
Storage	-	-	39,127	-	39,127	-	-	217,196	-	217,196	-	-	-	-	-				
Bunker and Vessel Fuel	-	-	526	-	526	-	-	39,539	-	39,539	-	-	211	-	211				
Use not Reported	4,162	-	-	16,186	20,348	81,460	-	-	617,228	698,688	2,045	-	-	46,138	48,183				
District 7. Southern No. 1																			
Total	7,669,471	3,480,376	3,313,485	584	14,463,916	34,165,160	7,441,208	6,653,612	182,352	48,442,332	189,855	60,079	109,903	434	360,271	586	777,252	- 94,509	49,485,932
Railroad Fuel	121,460	-	-	-	121,460	938,273	1,394	-	-	939,667	18,332	-	-	-	18,332				
Industrial	3,130,512	2,615,183	349,606	-	6,095,301	8,032,116	3,979,368	931,431	-	12,942,915	132,235	-	109,903	-	242,138				
Retail Dealers	204,259	20,582	-	-	224,841	16,360,844	338,440	29,365	-	16,728,649	3,082	912	-	-	3,994				
Byproduct and Water Gas 5/	4,199,271	750,262	2,959,612	-	7,909,145	8,508,849	1,985,712	5,227,868	-	15,722,429	4,484	-	-	-	4,484				
Smithing	-	-	-	-	-	-	-	-	-	-	22,741	-	-	-	22,741				
Storage	13,433	-	4,267	-	17,700	28,557	-	464,894	-	493,451	-	-	-	-	-				
Bunker and Vessel Fuel	-	89,125	-	-	89,125	-	504,637	54	-	504,691	-	7,174	-	-	7,174				
Export 6/	-	5,224	-	-	5,224	-	591,599	-	-	591,599	-	51,993	-	-	51,993				
Use not Reported	536	-	-	584	1,120	296,521	40,058	-	182,352	518,931	8,981	-	-	434	9,415				
District 8. Southern No. 2																			
Total	5,285,930	90,293	547,678	8,719	5,932,620	86,690,029	3,889,483	16,097,533	947,731	107,624,776	286,835	-	2,429	12,631	301,895	20,902	855,537	-158,989	108,644,121
Railroad Fuel	82,471	6,201	-	-	88,672	16,101,739	413,677	263,892	-	16,779,308	81,238	-	-	-	81,238				
Industrial	4,408,685	33,665	308,817	-	4,751,167	30,079,529	176,525	5,200,368	-	35,456,422	118,030	-	-	-	118,030				
Retail Dealers	39,146	653	-	-	39,799	26,657,933	19,694	401,775	-	27,079,402	24,600	-	2,271	-	26,871				
Byproduct and Water Gas 5/	742,161	47,446	180,041	-	969,648	12,661,291	2,712,427	7,903,028	-	23,276,746	13,472	-	-	-	13,472				
Smithing	-	-	-	-	-	-	-	-	-	-	8,731	-	-	-	8,731				
Storage	-	-	56,743	-	56,743	211,642	-	1,904,967	-	2,116,609	-	-	-	-	-				
Bunker and Vessel Fuel	-	-	2,077	-	2,077	-	68,220	423,503	-	491,723	-	-	158	-	158				
Export 6/	-	2,328	-	-	2,328	-	468,649	-	-	468,649	-	-	-	-	-				
Use not Reported	13,467	-	-	8,719	22,186	977,895	30,291	-	947,731	1,955,917	40,764	-	-	12,631	53,395				

TABLE 4

SHIPMENTS OF BITUMINOUS COAL AND LIGNITE DURING THE YEAR ENDED MARCH 31, 1945 (continued)

Size Group and Movement	All Lump Coal and All Double Screened Coal with Top Size Over 2" (1)					All Double Screened Coal with Top Size not exceeding 2" (2)					M/R Mod. M/R Dom. M/R Screened and Altered M/R and Minus Resultant with Top Size Over 2" (3)					All Minus Resultant and Dedusted Screenings with Top Size Over 3/4" and not exceeding 2" (4)				
	All Rail River and Ex-River 1/	Interport 2/		Truck 3/	Total	All Rail River and Ex-River 1/	Interport 2/		Truck 3/	Total	All Rail River and Ex-River 1/	Interport 2/		Truck 3/	Total	All Rail River and Ex-River 1/	Interport 2/		Truck 3/	Total
District and Use		Tidewater	Lake				Tidewater	Lake				Tidewater	Lake				Tidewater	Lake		
District 9. West Kentucky																				
Total	4,190,294	-	298,666	364,573	4,853,533	919,467	-	558	28,659	948,684	6,347,714	-	358,813	38,953	6,745,480	3,136,586	-	-	39,836	3,176,422
Railroad Fuel	943,533	-	298,666	-	1,242,199	54,248	-	558	-	54,806	5,384,115	-	358,813	-	5,742,928	150,348	-	-	-	150,348
Industrial	1,038,590	-	-	-	1,038,590	306,380	-	-	-	306,380	855,028	-	-	-	855,028	2,426,235	-	-	-	2,426,235
Retail Dealers	2,187,542	-	-	-	2,187,542	546,839	-	-	-	546,839	39,231	-	-	-	39,231	544,511	-	-	-	544,511
Use not Reported	20,629	-	-	364,573	385,202	12,000	-	-	28,659	40,659	69,340	-	-	38,953	108,293	15,492	-	-	39,836	55,328
District 10. Illinois																				
Total	20,377,170	46,038	785,851	3,091,286	24,300,345	3,192,805	2,907	61,012	814,871	4,071,595	16,137,658	-	-	49,290	16,186,948	24,255,930	-	3,535	1,573,672	25,833,137
Railroad Fuel	11,303,262	-	785,043	-	12,088,305	586,077	-	58,151	-	644,228	10,312,444	-	-	-	10,312,444	2,422,910	-	493	-	2,423,403
Industrial	1,691,635	-	808	-	1,692,443	1,190,220	-	2,861	-	1,193,081	5,597,673	-	-	-	5,597,673	17,591,007	-	-	-	17,591,007
Retail Dealers	7,356,791	-	-	-	7,356,791	1,235,560	-	-	-	1,235,560	134,165	-	-	-	134,165	4,043,271	-	3,042	-	4,046,313
Byproduct and Water Gas	1,047	-	-	-	1,047	180,161	-	-	-	180,161	-	-	-	-	-	125,539	-	-	-	125,539
Bunker and Vessel Fuel	-	416	-	-	416	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Export 6/	-	45,622	-	-	45,622	-	2,907	-	-	2,907	-	-	-	-	-	-	-	-	-	-
Use not Reported	24,435	-	-	3,091,286	3,115,721	787	-	-	814,871	815,658	93,376	-	-	49,290	142,666	73,203	-	-	1,573,672	1,646,875
District 11. Indiana																				
Total	10,548,139	-	-	914,718	11,462,857	1,900,340	-	-	214,943	2,115,283	1,686,180	-	-	375,817	2,061,997	9,416,519	-	-	223,895	9,640,414
Railroad Fuel	7,684,375	-	-	-	7,684,375	161,164	-	-	-	161,164	1,522,390	-	-	-	1,522,390	365,268	-	-	-	365,268
Industrial	804,934	-	-	-	804,934	1,079,242	-	-	-	1,079,242	138,134	-	-	-	138,134	8,466,899	-	-	-	8,466,899
Retail Dealers	1,982,372	-	-	-	1,982,372	659,242	-	-	-	659,242	4,070	-	-	-	4,070	506,376	-	-	-	506,376
Byproduct and Water Gas	42,616	-	-	-	42,616	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Use not Reported	33,842	-	-	914,718	948,560	692	-	-	214,943	215,635	21,586	-	-	375,817	397,403	77,976	-	-	223,895	301,871
District 12. Iowa																				
Total	335,376	-	-	328,430	663,806	22,141	-	-	43,295	65,436	23,095	-	-	18,236	41,331	600,939	-	-	288,201	889,140
Railroad Fuel	179,757	-	-	-	179,757	-	-	-	-	-	-	-	-	-	-	45,599	-	-	-	45,599
Industrial	17,724	-	-	-	17,724	17,616	-	-	-	17,616	20,918	-	-	-	20,918	527,159	-	-	-	527,159
Retail Dealers	137,895	-	-	-	137,895	4,525	-	-	-	4,525	2,177	-	-	-	2,177	10,088	-	-	-	10,088
Byproduct and Water Gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,825	-	-	-	4,825
Use not Reported	-	-	-	328,430	328,430	-	-	-	43,295	43,295	-	-	-	18,236	18,236	13,268	-	-	288,201	301,469
District 13. Southeastern																				
Total	1,788,515	521	-	191,563	1,980,599	324,535	-	-	26,790	351,325	6,746,490	1,728	-	152,924	6,901,142	8,669,430	20,314	-	22,694	8,712,438
Railroad Fuel	33,246	-	-	-	33,246	5,715	-	-	-	5,715	3,878,627	-	-	-	3,878,627	53,317	-	-	-	53,317
Industrial	625,492	-	-	-	625,492	180,246	-	-	-	180,246	1,428,239	-	-	-	1,428,239	1,782,735	-	-	-	1,782,735
Retail Dealers	1,117,330	-	-	-	1,117,330	136,458	-	-	-	136,458	8,617	-	-	-	8,617	123,666	-	-	-	123,666
Byproduct and Water Gas 5/	12,447	-	-	-	12,447	2,116	-	-	-	2,116	1,419,935	-	-	-	1,419,935	6,707,840	-	-	-	6,707,840
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bunker and Vessel Fuel	-	255	-	-	255	-	-	-	-	-	-	1,728	-	-	1,728	-	19,056	-	-	19,056
Export 6/	-	266	-	-	266	-	-	-	-	-	-	-	-	-	-	-	1,258	-	-	1,258
Use not Reported	-	-	-	191,563	191,563	-	-	-	26,790	26,790	11,072	-	-	152,924	163,996	1,872	-	-	22,694	24,566
District 14. Arkansas-Oklahoma																				
Total	1,056,423	-	-	9,607	1,066,030	67,546	-	-	1,299	68,845	535,948	-	-	3,611	539,559	140,522	-	-	-	140,522
Railroad Fuel	9,487	-	-	-	9,487	2,478	-	-	-	2,478	200,339	-	-	-	200,339	774	-	-	-	774
Industrial	31,994	-	-	-	31,994	11,873	-	-	-	11,873	146,641	-	-	-	146,641	51,338	-	-	-	51,338
Retail Dealers	983,116	-	-	-	983,116	52,783	-	-	-	52,783	63,341	-	-	-	63,341	83,280	-	-	-	83,280
Byproduct and Water Gas	222	-	-	-	222	-	-	-	-	-	122,496	-	-	-	122,496	-	-	-	-	-
Use not Reported	31,604	-	-	9,607	41,211	412	-	-	1,299	1,711	3,131	-	-	3,611	6,742	5,130	-	-	-	5,130
District 15. Southwestern																				
Total	3,645,290	-	-	549,981	4,195,271	622,559	-	-	53,029	675,588	8/1,761,760	-	-	140,248	1,902,008	2,924,974	-	-	146,563	3,071,537
Railroad Fuel	1,149,501	-	-	-	1,149,501	13,813	-	-	-	13,813	834,514	-	-	-	834,514	58,012	-	-	-	58,012
Industrial	541,524	-	-	-	541,524	170,026	-	-	-	170,026	8/ 718,559	-	-	-	718,559	2,492,700	-	-	-	2,492,700
Retail Dealers	1,933,371	-	-	-	1,933,371	438,720	-	-	-	438,720	8/ 17,657	-	-	-	17,657	369,171	-	-	-	369,171
Byproduct and Water Gas	-	-	-	-	-	-	-	-	-	-	183,283	-	-	-	183,283	-	-	-	-	-
Use not Reported	20,894	-	-	549,981	570,875	-	-	-	53,029	53,029	7,747	-	-	140,248	147,995	5,091	-	-	146,563	151,654
District 16. Northern Colorado																				
Total	539,194	-	-	372,997	912,191	82,215	-	-	132,583	214,798	20,346	-	-	9,994	30,340	737,599	-	-	216,796	954,395
Railroad Fuel	73,575	-	-	-	73,575	-	-	-	-	-	67	-	-	-	67	30,869	-	-	-	30,869
Industrial	78,852	-	-	-	78,852	25,602	-	-	-	25,602	19,048	-	-	-	19,048	517,198	-	-	-	517,198
Retail Dealers	386,767	-	-	-	386,767	56,613	-	-	-	56,613	1,231	-	-	-	1,231	189,532	-	-	-	189,532
Use not Reported	-	-	-	372,997	372,997	-	-	-	132,583	132,583	-	-	-	9,994	9,994	-	-	-	216,796	216,796
District 17. Southern Colorado																				
Total	1,702,715	-	-	302,063	2,004,778	85,195	-	-	11,210	96,405	1,686,046	-	-	6,448	1,692,494	2,067,311	-	-	165,339	2,232,650
Railroad Fuel	69,199	-	-	-	69,199	15,099	-	-	-	15,099	1,514,157	-	-	-	1,514,157	400,275	-	-	-	400,275
Industrial	226,272	-	-	-	226,272	16,981	-	-	-	16,981	23,686	-	-	-	23,686	272,071	-	-	-	272,071
Retail Dealers	1,372,779	-	-	-	1,372,779	52,653	-	-	-	52,653	1,068	-	-	-	1,068	285,852	-	-	-	285,852
Byproduct and Water Gas 5/	90	-	-	-	90	-	-	-	-	-	147,032	-	-	-	147,032	1,108,907	-	-	-	1,108,907
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Use not Reported	34,375	-	-	302,063	336,438	462	-	-	11,210	11,672	103	-	-	6,448	6,551	206	-	-	165,339	165,545
District 18. New Mexico																				
Total	304,860	-	-	21,234	326,094	18,220	-	-	3,982	22,202	-	-	-	6,849	6,849	104,734	-	-	180	104,914
Railroad Fuel	224,412	-	-	-	224,412	-	-	-	-	-	-	-	-	-	-	77,008	-	-	-	77,008
Industrial	16,179	-	-	-	16,179	6,052	-	-	-	6,052	-	-	-	-	-	23,389	-	-	-	23,389
Retail Dealers	64,269	-	-	-	64,269	12,168	-	-	-	12,168	-	-	-	-	-	4,337	-	-	-	4,337
Use not Reported	-	-	-	21,234	21,234	-	-	-	3,982	3,982	-	-	-	6,849	6,849	-	-	-	180	180

TABLE 4

SHIPMENTS OF BITUMINOUS COAL AND LIGNITE DURING THE YEAR ENDED MARCH 31,1945 (continued)

Size Group and Movement / District and Use	All Minus Resultant and Dedusted Screenings with Top Size not exceeding 3/4" (5)					Total Columns 1 through 5 (6)					Size not reported (7)					Other disposals, use and size not specified (8)	Coal used at mines 4/ (9)	Net change in inventory (10)	Grand total Columns 6 through 10 (11)
	All-rail, River and Ex-river 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total	All-rail, River and Ex-river 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total	All-rail, River and Ex-river 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total				
District 9. West Kentucky																			
Total	375,994	-	-	6,142	382,136	14,970,055	-	658,037	478,163	16,106,255	3,177	-	-	19,713	22,890	274	97,064	- 7,110	16,219,373
Railroad Fuel	67,188	-	-	-	67,188	6,599,432	-	658,037	-	7,257,469	2,200	-	-	-	2,200				
Industrial	277,100	-	-	-	277,100	4,903,333	-	-	-	4,903,333	588	-	-	-	588				
Retail Dealers	15,067	-	-	-	15,067	3,333,190	-	-	-	3,333,190	-	-	-	-	-				
Use not Reported	16,639	-	-	6,142	22,781	134,100	-	-	478,163	612,263	389	-	-	19,713	20,102				
District 10. Illinois																			
Total	3,484,511	-	139	179,121	3,663,771	67,448,074	48,945	850,537	5,708,240	74,055,796	15,441	-	-	97,566	113,007	2,957	1,173,353	- 11,697	75,333,416
Railroad Fuel	97,282	-	139	-	97,421	24,721,975	-	843,826	-	25,565,801	10,353	-	-	-	10,353				
Industrial	2,781,627	-	-	-	2,781,627	28,852,162	-	3,669	-	28,855,831	3,874	-	-	-	3,874				
Retail Dealers	595,280	-	-	-	595,280	13,365,067	-	3,042	-	13,368,109	1,214	-	-	-	1,214				
Byproduct and Water Gas	-	-	-	-	-	306,747	-	-	-	306,747	-	-	-	-	-				
Bunker and Vessel Fuel	-	-	-	-	-	-	416	-	-	416	-	-	-	-	-				
Export 6/	-	-	-	-	-	-	48,529	-	-	48,529	-	-	-	-	-				
Use not Reported	10,322	-	-	179,121	189,443	202,123	-	-	5,708,240	5,910,363	-	-	-	97,566	97,566				
District 11. Indiana																			
Total	1,251,064	-	-	41,707	1,292,771	24,802,242	-	-	1,771,080	26,573,322	183,917	-	-	38,522	222,439	55	158,190	22,325	26,976,331
Railroad Fuel	2,600	-	-	-	2,600	9,735,797	-	-	-	9,735,797	66,285	-	-	-	66,285				
Industrial	1,215,308	-	-	-	1,215,308	11,704,517	-	-	-	11,704,517	85,634	-	-	-	85,634				
Retail Dealers	33,015	-	-	-	33,015	3,185,075	-	-	-	3,185,075	30,023	-	-	-	30,023				
Byproduct and Water Gas	-	-	-	-	-	42,616	-	-	-	42,616	-	-	-	-	-				
Use not Reported	141	-	-	41,707	41,848	134,237	-	-	1,771,080	1,905,317	1,975	-	-	38,522	40,497				
District 12. Iowa																			
Total	-	-	-	443	443	981,551	-	-	678,605	1,660,156	6,184	-	-	36,980	43,164	-	19,509	1,704	1,724,533
Railroad Fuel	-	-	-	-	-	225,356	-	-	-	225,356	1,032	-	-	-	1,032				
Industrial	-	-	-	-	-	583,417	-	-	-	583,417	2,834	-	-	-	2,834				
Retail Dealers	-	-	-	-	-	154,685	-	-	-	154,685	2,318	-	-	-	2,318				
Byproduct and Water Gas	-	-	-	-	-	4,825	-	-	-	4,825	-	-	-	-	-				
Use not Reported	-	-	-	443	443	13,268	-	-	678,605	691,873	-	-	-	36,980	36,980				
District 13. Southeastern																			
Total	56,789	-	-	11,491	68,280	17,585,759	22,563	-	405,462	18,013,784	48,822	2,307	-	7,250	58,379	52	188,118	6,522	18,266,855
Railroad Fuel	-	-	-	-	-	3,970,905	-	-	-	3,970,905	239	-	-	-	239				
Industrial	56,789	-	-	-	56,789	4,073,501	-	-	-	4,073,501	13,306	-	-	-	13,306				
Retail Dealers	-	-	-	-	-	1,386,071	-	-	-	1,386,071	1,791	-	-	-	1,791				
Byproduct and Water Gas 5/	-	-	-	-	-	8,142,338	-	-	-	8,142,338	-	-	-	-	-				
Smithing	-	-	-	-	-	-	-	-	-	-	32,807	-	-	-	32,807				
Bunker and Vessel Fuel	-	-	-	-	-	-	21,039	-	-	21,039	-	2,307	-	-	2,307				
Export 6/	-	-	-	-	-	-	1,524	-	-	1.524	-	-	-	-	-				
Use not Reported	-	-	-	11,491	11,491	12,944	-	-	405,462	418,406	679	-	-	7,250	7,929				
District 14. Arkansas-Oklahoma																			
Total	142,412	-	-	-	142,412	1,942,851	-	-	14,517	1,957,368	12,195	-	-	2,615	14,810	139	10,289	1,775	1,984,381
Railroad Fuel	5,352	-	-	-	5,352	218,430	-	-	-	218,430	204	-	-	-	204				
Industrial	58,871	-	-	-	58,871	300,717	-	-	-	300,717	6,575	-	-	-	6,575				
Retail Dealers	78,189	-	-	-	78,189	1,260,709	-	-	-	1,260,709	4,726	-	-	-	4,726				
Byproduct and Water Gas	-	-	-	-	-	122,718	-	-	-	122,718	-	-	-	-	-				
Use not Reported	-	-	-	-	-	40,277	-	-	14,517	54,794	690	-	-	2,615	3,305				
District 15. Southwestern																			
Total	1,139	-	-	1,136	2,275	8,955,722	-	-	890,957	9,846,679	27,439	-	-	5,349	32,788	170	48,095	- 1,068	9,926,664
Railroad Fuel	-	-	-	-	-	2,055,840	-	-	-	2,055,840	12,387	-	-	-	12,387				
Industrial	1,139	-	-	-	1,139	3,923,948	-	-	-	3,923,948	6,425	-	-	-	6,425				
Retail Dealers	-	-	-	-	-	2,758,919	-	-	-	2,758,919	6,804	-	-	-	6,804				
Byproduct and Water Gas	-	-	-	-	-	183,283	-	-	-	183,283	-	-	-	-	-				
Use not Reported	-	-	-	1,136	1,136	33,732	-	-	890,957	924,689	1,823	-	-	5,349	7,172				
District 16. Northern Colorado																			
Total	150,381	-	-	29,464	179,845	1,529,735	-	-	761,834	2,291,569	-	-	-	594	594	277	57,414	2,155	2,352,009
Railroad Fuel	-	-	-	-	-	104,511	-	-	-	104,511	-	-	-	-	-				
Industrial	143,171	-	-	-	143,171	783,871	-	-	-	783,871	-	-	-	-	-				
Retail Dealers	7,210	-	-	-	7,210	641,353	-	-	-	641,353	-	-	-	-	-				
Use not Reported	-	-	-	29,464	29,464	-	-	-	761,834	761,834	-	-	-	594	594				
District 17. Southern Colorado																			
Total	88,389	-	-	6,072	94,461	5,629,656	-	-	491,132	6,120,788	14,741	-	-	7,299	22,040	-	116,765	446	6,260,039
Railroad Fuel	4,921	-	-	-	4,921	2,003,651	-	-	-	2,003,651	4,668	-	-	-	4,668				
Industrial	28,931	-	-	-	28,931	567,941	-	-	-	567,941	7,210	-	-	-	7,210				
Retail Dealers	49	-	-	-	49	1,712,401	-	-	-	1,712,401	2,013	-	-	-	2,013				
Byproduct and Water Gas 5/	54,488	-	-	-	54,488	1,310,517	-	-	-	1,310,517	-	-	-	-	-				
Smithing	-	-	-	-	-	-	-	-	-	-	850	-	-	-	850				
Use not Reported	-	-	-	6,072	6,072	35,146	-	-	491,132	526,278	-	-	-	7,299	7,299				
District 18. New Mexico																			
Total	6,094	-	-	-	6,094	433,908	-	-	32,245	466,153	-	-	-	1,574	1,574	-	26,326	- 9,931	484,122
Railroad Fuel	5,365	-	-	-	5,365	306,785	-	-	-	306,785	-	-	-	-	-				
Industrial	729	-	-	-	729	46,349	-	-	-	46,349	-	-	-	-	-				
Retail Dealers	-	-	-	-	-	80,774	-	-	-	80,774	-	-	-	-	-				
Use not Reported	-	-	-	-	-	-	-	-	32,245	32,245	-	-	-	1,574	1,574				

TABLE 4

SHIPMENTS OF BITUMINOUS COAL AND LIGNITE DURING THE YEAR ENDED MARCH 31, 1945 (continued)

District and Use / Size Group and Movement	All Lump Coal and All Double Screened Coal with Top Size Over 2" (1)					All Double Screened Coal with Top Size not exceeding 2" (2)					M/R Mod. M/R Dom. M/R Screened and Altered M/R and Minus Resultant with Top Size Over 2" (3)					All Minus Resultant and Deducted Screenings with Top Size Over 3/4" and not exceeding 2" (4)				
	All Rail River and Ex-River 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total	All Rail River and Ex-River 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total	All Rail River and Ex-River 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total	All Rail River and Ex-River 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total
District 19. Wyoming																				
Total	1,280,453	-	-	78,745	1,359,198	139,119	-	-	9,469	148,588	6,574,528	-	-	264	6,574,792	1,308,232	-	-	13,593	1,321,825
Railroad Fuel	378,320	-	-	-	378,320	22,081	-	-	-	22,081	6,379,241	-	-	-	6,379,241	387,614	-	-	-	387,614
Industrial	308,775	-	-	-	308,775	17,096	-	-	-	17,096	194,977	-	-	-	194,977	656,916	-	-	-	656,916
Retail Dealers	554,862	-	-	-	554,862	99,942	-	-	-	99,942	48	-	-	-	48	224,177	-	-	-	224,177
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Use not Reported	38,496	-	-	78,745	117,241	-	-	-	9,469	9,469	262	-	-	264	526	39,525	-	-	13,593	53,118
District 20. Utah																				
Total	2,041,216	-	-	160,025	2,201,241	120,139	-	-	1,597	121,736	2,565,810	3,037	-	1,251	2,570,098	1,931,082	-	-	44,393	1,975,475
Railroad Fuel	68,664	-	-	-	68,664	16,520	-	-	-	16,520	538,906	-	-	-	538,906	389,657	-	-	-	389,657
Industrial	247,166	-	-	-	247,166	10,942	-	-	-	10,942	112,462	-	-	-	112,462	800,539	-	-	-	800,539
Retail Dealers	1,527,467	-	-	-	1,527,467	92,344	-	-	-	92,344	779	-	-	-	779	716,227	-	-	-	716,227
Byproduct and Water Gas	135,979	-	-	-	135,979	-	-	-	-	-	1,898,271	-	-	-	1,898,271	1,969	-	-	-	1,969
Bunker and vessel Fuel	-	-	-	-	-	-	-	-	-	-	-	3,037	-	-	3,037	-	-	-	-	-
Use not Reported	61,940	-	-	160,025	221,965	333	-	-	1,597	1,930	15,392	-	-	1,251	16,643	22,690	-	-	44,393	67,083
District 21. North and South Dakota																				
Total	812,088	-	-	47,017	859,105	209,189	-	-	5,001	214,190	8/ 499,523	-	-	8/ 55,150	8/554,673	9/334,780	-	-	9/1,046	9/335,826
Railroad Fuel	15,813	-	-	-	15,813	794	-	-	-	794	8/ 77,732	-	-	-	8/ 77,732	9/ 21,001	-	-	-	9/ 21,001
Industrial	43,967	-	-	-	43,967	65,600	-	-	-	65,600	8/ 420,129	-	-	-	8/420,129	9/308,166	-	-	-	9/308,166
Retail Dealers	752,308	-	-	-	752,308	142,795	-	-	-	142,795	8/ 1,662	-	-	-	8/ 1,662	9/ 5,613	-	-	-	9/ 5,613
Use not Reported	-	-	-	47,017	47,017	-	-	-	5,001	5,001	-	-	-	8/ 55,150	8/ 55,150	-	-	-	9/1,046	9/ 1,046
District 22. Montana																				
Total	485,006	-	-	43,848	528,854	175,441	-	-	6,482	181,923	3,581,367	-	-	-	3,581,367	273,215	-	-	3,392	276,607
Railroad Fuel	25,721	-	-	-	25,721	6,089	-	-	-	6,089	3,516,600	-	-	-	3,516,600	101,094	-	-	-	101,094
Industrial	119,387	-	-	-	119,387	47,478	-	-	-	47,478	50,189	-	-	-	50,189	128,659	-	-	-	128,659
Retail Dealers	339,898	-	-	-	339,898	121,874	-	-	-	121,874	-	-	-	-	-	15,597	-	-	-	15,597
Storage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,067	-	-	-	1,067
Use not Reported	-	-	-	43,848	43,848	-	-	-	6,482	6,482	14,578	-	-	-	14,578	26,798	-	-	3,392	30,190
District 23. Washington Only																				
Total	108,528	-	-	163,259	271,787	131,091	-	-	159,279	290,370	36,226	-	-	1,382	37,608	188,413	-	-	2,726	191,139
Railroad Fuel	2,418	-	-	-	2,418	347	-	-	-	347	2,460	-	-	-	2,460	55	-	-	-	55
Industrial	79,234	-	-	-	79,234	88,297	-	-	-	88,297	33,479	-	-	-	33,479	130,900	-	-	-	130,900
Retail Dealers	22,176	-	-	-	22,176	37,453	-	-	-	37,453	287	-	-	-	287	26,088	-	-	-	26,088
Byproduct and Water Gas	-	-	-	-	-	3,313	-	-	-	3,313	-	-	-	-	-	27,961	-	-	-	27,961
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Use not Reported	4,700	-	-	163,259	167,959	1,681	-	-	159,279	160,960	-	-	-	1,382	1,382	3,409	-	-	2,726	6,135
Unknown District																				
Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Dealers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bunker and Vessel Fuel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Export 6/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Use not Reported	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total (excluding ex-dock movement)																				
Total	104,718,538	1,752,625	7,480,193	10,553,737	124,505,093	26,150,085	964,971	2,425,021	2,402,995	31,943,072	194,809,607	15,713,816	18,486,344	5,614,079	234,623,846	95,856,491	1,586,831	7,047,061	4,452,751	108,943,134
Railroad Fuel	30,628,045	43,349	2,390,137	-	33,061,531	1,737,004	-	82,084	-	1,819,088	82,849,007	387,188	2,289,557	-	85,525,752	7,761,406	5,085	107,221	-	7,873,712
Industrial	14,862,273	553,745	651,115	-	16,067,133	9,379,196	340,211	378,353	-	10,097,760	45,974,574	9,890,250	5,042,449	-	60,907,273	64,195,995	1,148,347	3,645,423	-	68,989,765
Retail Dealers	56,195,757	108,889	275,233	-	56,579,879	14,355,910	428,475	128,828	-	14,913,213	5,365,586	573,688	24,352	-	5,963,626	10,436,797	75,665	73,276	-	10,585,738
Byproduct and Water Gas 5/	2,307,879	261,820	1,175,349	-	3,745,048	590,958	158,569	173,385	-	922,912	58,431,415	3,185,377	10,018,645	-	71,635,437	12,777,485	321,990	1,848,871	-	14,948,346
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	80,503	-	1,790,671	-	1,871,174	15,585	-	1,638,721	-	1,654,306	34.845	-	1,083,978	-	1,118,823	113,713	-	1,170,220	-	1,283,933
Bunker and Vessel Fuel	-	235,520	1,197,688	-	1,433,208	-	9,982	23,650	-	33,632	-	726,332	27,363	-	753,695	-	29,181	202,050	-	231,231
Export 6/	-	517,793	-	-	517,793	-	26,964	-	-	26,964	-	891,396	-	-	891,396	-	6,563	-	-	6,563
Use not Reported	644,081	31,509	-	10,553,737	11,229,327	71,432	770	-	2,402,995	2,475,197	2,164,180	59,585	-	5,614,079	7,827,844	571,095	-	-	4,452,751	5,023,846
Tidewater ex-dock movement 7/																				
Total	-	-	-	-	125,454	-	-	-	-	1,817,202	-	-	-	-	3,863,829	-	-	-	-	9/3,158,772
Railroad Fuel	-	-	-	-	-	-	-	-	-	143	-	-	-	-	13,041	-	-	-	-	9/ 27,778
Industrial	-	-	-	-	23,491	-	-	-	-	544,098	-	-	-	-	1,084,024	-	-	-	-	9/1,429,609
Retail Dealers	-	-	-	-	101,504	-	-	-	-	1,265,399	-	-	-	-	1,446,732	-	-	-	-	9/1,365,596
Byproduct and Water Gas	-	-	-	-	-	-	-	-	-	1,605	-	-	-	-	1,293,928	-	-	-	-	9/ 331,370
Smithing	-	-	-	-	428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bunker and Vessel Fuel	-	-	-	-	31	-	-	-	-	5,957	-	-	-	-	26,104	-	-	-	-	9/ 4,419
Lake ex-dock movement 7/																				
Total	-	-	-	-	3,893,274	-	-	-	-	2,086,658	-	-	-	-	2,952,290	-	-	-	-	9/6,554,096
Railroad Fuel	-	-	-	-	26,454	-	-	-	-	8,077	-	-	-	-	1,680,738	-	-	-	-	9/ 286,222
Industrial	-	-	-	-	397,982	-	-	-	-	362,790	-	-	-	-	236,739	-	-	-	-	9/3,370,457
Retail Dealers	-	-	-	-	3,156,709	-	-	-	-	1,665,345	-	-	-	-	279,869	-	-	-	-	9/2,266,657
Byproduct and Water Gas	-	-	-	-	17,377	-	-	-	-	65	-	-	-	-	40,738	-	-	-	-	9/ 526,357
Smithing	-	-	-	-	777	-	-	-	-	511	-	-	-	-	2,210	-	-	-	-	9/ 821
Storage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9/ 29,542
Bunker and Vessel Fuel	-	-	-	-	293,975	-	-	-	-	49,870	-	-	-	-	711,996	-	-	-	-	9/ 74,040
GRAND TOTAL	-	-	-	-	128,523,821	-	-	-	-	35,846,932	-	-	-	-	241,439,965	-	-	-	-	118,656,002

1/ Includes shipments by truck to byproduct and beehive coke ovens away from the producing mine and for smithing use as follows: District 1, 61,379 tons; District 2, 1,355,368 tons; District 3, 18,931 tons; District 10, 114,888 tons; District 13, 15,741 tons; District 17, 236 tons; District 19, 53 tons; District 23, 2,907 tons.

2/ Includes shipments via tidewater to alongside consumers and via Greak Lakes to alongside consumers and for consignment to Canada.

3/ Truck data not reported by use.

4/ Includes coal used to produce coal, coal used by mine employees, and coal made into briquets or packaged fuel at the reporting mine.

5/ Includes shipments to beehive coke ovens also.

6/ This item includes only such shipments to tidewater ports for cargoes destined to points outside the United States as are reported to this office. The tonnages shown here are not all inclusive.

7/ District of origin not ascertainable.

8/ Includes some crushed lignite.

9/ Includes all screenings. Breakdown of size of screenings not reported

10/ Included with "All minus resultant and deducted screenings with top size over 3/4" and not exceeding 2"."

TABLE 4

SHIPMENTS OF BITUMINOUS COAL AND LIGNITE DURING THE YEAR ENDED MARCH 31, 1945 (continued)

Size Group and Movement / District and Use	All Mine Resultant and Deducted Screenings with Top Size not exceeding 3/4" (5)					Total Columns 1 through 5 (6)					Size not reported (7)					Other disposals, use and size not specified (8)	Coal used at mines 4/ (9)	Net change in inventory (10)	Grand total Columns 6 through 10 (11)
	All-rail, River and Ex-River 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total	All-rail, River and Ex-River 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total	All rail, River and Ex-River 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total				
District 19. Wyoming																			
Total	16,826	-	-	-	16,826	9,319,158	-	-	102,071	9,421,229	151	-	-	11	162	1,280	132,304	208	9,555,183
Railroad Fuel	-	-	-	-	-	7,167,256	-	-	-	7,167,256	-	-	-	-	-				
Industrial	16,826	-	-	-	16,826	1,194,590	-	-	-	1,194,590	89	-	-	-	89				
Retail Dealers	-	-	-	-	-	879,029	-	-	-	879,029	-	-	-	-	-				
Smithing	-	-	-	-	-	-	-	-	-	-	62	-	-	-	62				
Use not Reported	-	-	-	-	-	78,283	-	-	102,071	180,354	-	-	-	11	11				
District 20. Utah																			
Total	60,881	-	-	-	60,881	6,719,128	3,037	-	207,266	6,929,431	-	-	-	389	389	105	28,129	- 4,928	6,953,126
Railroad Fuel	303	-	-	-	303	1,014,050	-	-	-	1,014,050	-	-	-	-	-				
Industrial	60,048	-	-	-	60,048	1,231,157	-	-	-	1,231,157	-	-	-	-	-				
Retail Dealers	530	-	-	-	530	2,337,347	-	-	-	2,337,347	-	-	-	-	-				
Byproduct and Water Gas	-	-	-	-	-	2,036,219	-	-	-	2,036,219	-	-	-	-	-				
Bunker and Vessel Fuel	-	-	-	-	-	-	3,037	-	-	3,037	-	-	-	-	-				
Use not Reported	-	-	-	-	-	100,355	-	-	207,266	307,621	-	-	-	389	389				
District 21. North and South Dakota																			
Total	10/	-	-	10/	10/	1,855,580	-	-	108,214	1,963,794	-	-	-	-	-	-	120,195	- 377	2,083,612
Railroad Fuel	10/	-	-	-	10/	115,340	-	-	-	115,340	-	-	-	-	-				
Industrial	10/	-	-	-	10/	837,862	-	-	-	837,862	-	-	-	-	-				
Retail Dealers	10/	-	-	-	10/	902,378	-	-	-	902,378	-	-	-	-	-				
Use not Reported	-	-	-	10/	10/	-	-	-	108,214	108,214	-	-	-	-	-				
District 22. Montana																			
Total	156,834	-	-	305	157,139	4,671,863	-	-	54,027	4,725,890	-	-	-	-	-	1,553	16,541	1,173	4,745,157
Railroad Fuel	29,494	-	-	-	29,494	3,678,998	-	-	-	3,678,998	-	-	-	-	-				
Industrial	110,512	-	-	-	110,512	456,225	-	-	-	456,225	-	-	-	-	-				
Retail Dealers	11,352	-	-	-	11,352	488,721	-	-	-	488,721	-	-	-	-	-				
Storage	-	-	-	-	-	1,067	-	-	-	1,067	-	-	-	-	-				
Use not Reported	5,476	-	-	305	5,781	46,852	-	-	54,027	100,879	-	-	-	-	-				
District 23. Washington Only																			
Total	140,605	-	-	3,358	143,963	604,863	-	-	330,004	934,867	414,727	-	-	75	414,802	163	27,263	20,957	1,398,052
Railroad Fuel	43,390	-	-	-	43,390	48,670	-	-	-	48,670	414,650	-	-	-	414,650				
Industrial	64,103	-	-	-	64,103	396,013	-	-	-	396,013	-	-	-	-	-				
Retail Dealers	3,077	-	-	-	3,077	89,081	-	-	-	89,081	-	-	-	-	-				
Byproduct and Water Gas	-	-	-	-	-	31,274	-	-	-	31,274	-	-	-	-	-				
Smithing	-	-	-	-	-	-	-	-	-	-	77	-	-	-	77				
Storage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Use not Reported	30,035	-	-	3,358	33,393	39,825	-	-	330,004	369,829	-	-	-	75	75				
Unknown District																			
Total	-	-	-	-	-	-	-	-	-	-	-	21,852	-	-	21,852	-	-	-	21,852
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Retail Dealers	-	-	-	-	-	-	-	-	-	-	-	226	-	-	226				
Bunker and Vessel Fuel	-	-	-	-	-	-	-	-	-	-	-	2,945	-	-	2,945				
Export 6/	-	-	-	-	-	-	-	-	-	-	-	18,463	-	-	18,463				
Use not Reported	-	-	-	-	-	-	-	-	-	-	-	218	-	-	218				
Total (excluding ex-dock movement)																			
Total	30,084,458	6,274,907	5,910,886	738,574	43,008,825	451,619,179	26,293,150	41,349,505	23,762,136	543,023,970	2,309,912	193,681	148,741	367,577	3,019,911	113,125	5,129,423	-184,974	551,101,455
Railroad Fuel	908,356	6,201	11,936	-	926,493	123,883,818	441,823	4,880,935	-	129,206,576	685,370	-	-	-	685,370				
Industrial	21,777,489	5,305,863	2,155,769	-	29,239,121	156,189,527	17,238,416	11,873,109	-	185,301,052	1,223,158	17,615	112,051	-	1,352,824				
Retail Dealers	1,162,519	64,067	1,999	-	1,228,585	87,516,569	1,250,784	503,688	-	89,271,041	128,705	72,272	2,271	-	203,248				
Byproduct and Water Gas 5/	6,112,944	797,708	3,264,663	-	10,175,315	80,220,681	4,725,464	16,480,913	-	101,427,058	21,654	-	26,714	-	48,368				
Smithing	-	-	-	-	-	-	-	-	-	-	157,745	-	-	-	157,745				
Storage	13,433	-	473,037	-	486,470	258,079	-	6,156,627	-	6,414,706	-	-	5,955	-	5,955				
Bunker and Vessel Fuel	-	92,028	3,482	-	95,510	-	1,093,043	1,454,233	-	2,547,276	-	27,663	1,750	-	29,413				
Export 6/	-	9,040	-	-	9,040	-	1,451,756	-	-	1,451,756	-	75,913	-	-	75,913				
Use not Reported	109,717	-	-	738,574	848,291	3,550,505	91,864	-	23,762,136	27,404,505	93,280	218	-	367,577	461,075				
Tidewater ex-dock movement 7/																			
Total	-	-	-	-	10/	-	-	-	-	8,965,257	-	-	-	-	156,575				
Railroad Fuel	-	-	-	-	10/	-	-	-	-	40,962	-	-	-	-	-				
Industrial	-	-	-	-	10/	-	-	-	-	3,081,222	-	-	-	-	119,318				
Retail Dealers	-	-	-	-	10/	-	-	-	-	4,179,231	-	-	-	-	37,257				
Byproduct and Water Gas	-	-	-	-	10/	-	-	-	-	1,626,903	-	-	-	-	-				
Smithing	-	-	-	-	-	-	-	-	-	428	-	-	-	-	-				
Bunker and Vessel Fuel	-	-	-	-	10/	-	-	-	-	36,511	-	-	-	-	-				
Lake ex-dock movement 7/																			
Total	-	-	-	-	10/	-	-	-	-	15,486,318	-	-	-	-	12,464				
Railroad Fuel	-	-	-	-	10/	-	-	-	-	2,001,491	-	-	-	-	5,268				
Industrial	-	-	-	-	10/	-	-	-	-	4,367,968	-	-	-	-	-				
Retail Dealers	-	-	-	-	10/	-	-	-	-	7,368,580	-	-	-	-	7,196				
Byproduct and Water Gas	-	-	-	-	10/	-	-	-	-	584,537	-	-	-	-	-				
Smithing	-	-	-	-	10/	-	-	-	-	4,319	-	-	-	-	-				
Storage	-	-	-	-	10/	-	-	-	-	29,542	-	-	-	-	-				
Bunker and Vessel Fuel	-	-	-	-	10/	-	-	-	-	1,129,881	-	-	-	-	-				
GRAND TOTAL	-	-	-	-	43,008,825	-	-	-	-	567,475,545	-	-	-	-	3,188,950	113,125	5,129,423	-184,974	575,722,069

RECAPITULATION OF THE DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945, AS REPORTED ON FORMS S.F.A. NOS. 38 AND 56, BY DISTRICT OF ORIGIN, METHOD OF MOVEMENT, AND/OR USE.

(In Net Tons of 2,000 Pounds)

TABLE 5

(Includes mines with an average daily capacity of 50 tons or more and all mines, washeries, and preparation plants with rail or river connections)

Method of Movement and/or Use	DISTRICT OF ORIGIN											
	1	2	3	4	5	6	7	8	9	10	11	12
Total all-rail movements - Industrial Use	17,247,277	12,114,207	11,796,400	8,779,383	13,774	656,510	7,987,805	26,696,257	4,722,877	24,804,393	11,246,858	586,251
Total all-rail movements - Retail Dealers	2,851,718	2,711,993	3,362,713	2,614,773	29,434	151,398	16,363,926	25,590,875	3,245,561	13,001,952	3,215,098	157,003
Total shipments of railroad fuel, other than shipments to tidewater and lake	8,567,350	11,315,465	13,947,243	9,808,792	11,637	1,300,105	956,605	16,182,977	6,601,632	24,732,328	9,802,082	226,388
Total shipments of coal to byproduct and beehive coke plants, other than to tidewater and lake	4,762,153	36,527,144	5,559,970	24,435	-	-	8,513,333	12,674,763	-	306,747	42,616	4,825
Total shipments of smithing coal, other than to tidewater and lake	87,617	4,860	-	-	-	-	22,741	8,731	-	-	-	-
Total river shipments, other than for railroad fuel, byproduct, or smithing use	-	3,136,099	522,480	924,297	-	700,140	-	3,076,892	208,562	4,288,104	-	-
Total ex-river shipments, other than for railroad fuel, byproduct or smithing use	-	96,922	126,034	-	-	926	-	1,073,087	-	8,979	-	-
Total shipments to tidewater	12,523,277	448,062	2,678,649	-	-	-	14,416,968	6,486,483	-	203,502	-	-
Total shipments to the Great Lakes	2,639,920	8,376,298	4,091,784	4,764,924	-	516,410	10,316,050	23,612,911	536,075	876,543	-	-
Total shipments to distributors and wholesalers where the final destination and use are not known	254,487	696,600	340,509	67,825	-	83,505	305,502	1,018,659	134,489	202,123	136,212	13,268
Total all-rail, river and ex-river shipments to storage piles	1,068	14,690	1,055	-	-	-	28,557	206,469	-	-	-	-
Shipments by truck or wagon, other than deliveries to byproduct plants and to coke ovens and for smithing use	1,337,181	4,278,004	205,100	4,201,015	50,145	663,366	182,786	960,362	497,876	5,805,806	1,809,602	715,585
Shipments via private railroad, other than deliveries to byproduct plants and to coke ovens and for smithing use	-	161,394	-	35,608	-	310	-	-	-	-	-	-
Shipments via tramway, other than deliveries to byproduct plants and to coke ovens and for smithing use	130,106	170,269	459	14,962	-	-	-	388,661	36,843	-	-	-
Shipments via conveyor belt, other than deliveries to byproduct plants and to coke ovens and for smithing use	282,430	1,011,213	435,787	-	-	964,747	176,546	59,493	23,268	118,889	543,293	-
Total Tonnage Shipped	50,684,584	81,063,220	43,068,183	31,236,014	104,990	5,037,417	59,270,819	118,036,620	16,007,183	74,349,366	26,795,761	1,703,320
Coal used by mine employees	174,543	333,777	81,983	55,756	1,407	2,224	432,004	721,274	25,633	283,676	22,357	14,310
Coal used to produce coal	438,529	76,084	58,493	45,586	7,383	1,314	176,728	134,263	71,431	889,677	135,833	5,199
Coal made into briquettes or packaged fuel at the reporting mine	-	-	-	-	-	-	168,520	-	-	-	-	-
Other disposals not specified above	3,629	69,852	373	10,758	-	-	586	20,902	274	2,957	55	-
Total Tons Shipped or Used	51,301,285	81,542,933	43,209,032	31,348,114	113,780	5,040,955	60,048,657	118,913,059	16,104,521	75,525,676	26,954,006	1,722,829
Net Change in Inventories	-12,298	14,629	39,960	8,353	640	-4,914	-94,509	-158,989	-7,110	-11,697	22,325	1,704
Total Production Reported	51,288,987	81,557,562	43,248,992	31,356,467	114,420	5,036,041	59,954,148	118,754,070	16,097,411	75,513,979	26,976,331	1,724,533
Percent of Estimated Production	87.0	95.4	93.4	93.5	84.1	96.8	98.1	94.4	83.4	99.7	96.8	76.4

RECAPITULATION OF THE DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED MARCH 31, 1945, AS REPORTED ON FORMS S.F.A. NOS. 38 AND 56, BY DISTRICT OF ORIGIN, METHOD OF MOVEMENT, AND/OR USE.

(In Net Tons of 2,000 Pounds)

TABLE 5

(Includes mines with an average daily capacity of 50 tons or more and all mines, washeries, and preparation plants with rail or river connections)

Method of Movement and/or Use	DISTRICT OF ORIGIN											
	13	14	15	16	17	18	19	20	21	22	23	Total
Total all-rail movements - Industrial Use	3,350,785	307,292	3,890,218	763,899	566,224	28,442	1,194,679	1,229,246	837,862	456,225	373,183	139,650,047
Total all-rail movements - Retail Dealers	1,387,862	1,265,435	2,765,723	641,353	1,714,414	80,774	879,029	2,337,347	902,378	488,721	89,081	85,848,561
Total shipments of railroad fuel, other than shipments to tidewater and lake	3,971,144	218,634	2,068,227	104,511	2,008,319	306,785	7,167,256	1,014,050	115,340	3,678,998	463,320	124,569,188
Total shipments of coal to byproduct and beehive coke plants, other than to tidewater and lake	8,142,338	122,718	183,283	-	1,310,517	-	-	2,036,219	-	-	31,274	80,242,335
Total shipments of smithing coal, other than to tidewater and lake	32,807	-	-	-	850	-	62	-	-	-	77	157,745
Total river shipments, other than for railroad fuel, byproduct, or smithing use	293,120	-	-	-	-	-	-	-	-	-	-	13,149,694
Total ex-river shipments, other than for railroad fuel, byproduct or smithing use	-	-	-	-	-	-	-	-	-	-	-	1,305,948
Total shipments to tidewater	237,154	473	-	-	11,714	-	-	8,251	-	-	1,887	37,016,420
Total shipments to the Great Lakes	-	-	-	-	-	-	-	-	-	-	-	55,730,915
Total shipments to distributors and wholesalers where the final destination and use are not known	13,623	40,967	35,555	-	35,146	-	78,283	100,355	-	46,852	39,825	3,643,785
Total all-rail, river and ex-river shipments to storage piles.	-	-	-	-	-	-	-	-	-	1,067	-	252,906
Shipments by truck or wagon, other than deliveries to byproduct plants and to coke ovens and for smithing use	412,712	17,132	896,306	762,428	498,431	33,819	102,082	207,655	108,214	54,027	330,079	24,129,713
Shipments via private railroad, other than deliveries to byproduct plants and to coke ovens and for smithing use	424,259	-	40,155	-	-	-	-	-	-	-	22,830	684,556
Shipments via tramway, other then deliveries to byproduct plants and to coke ovens and for smithing use	18,643	-	-	-	2,162	-	-	-	-	-	-	762,105
Shipments via conveyor belt, other than deliveries to byproduct plants and to coke ovens and for smithing use	-	-	-	19,972	6,765	17,907	-	1,911	-	-	-	3,662,221
Total Tonnage Shipped	18,284,447	1,972,651	9,879,467	2,292,163	6,154,542	467,727	9,421,391	6,935,034	1,963,794	4,725,890	1,351,556	570,806,139
Coal used by mine employees	98,749	5,163	14,398	16,383	27,254	3,438	33,723	14,383	10,818	9,495	11,766	2,394,514
Coal used to produce coal	89,369	5,126	33,697	41,031	89,511	22,888	98,581	13,746	82,830	7,046	15,497	2,539,842
Coal made into briquettes or packaged fuel at the reporting mine	-	-	-	-	-	-	-	-	26,547	-	-	195,067
Other disposals not specified above	52	139	170	277	-	-	1,280	105	-	1,553	163	113,125
Total Tons Shipped or Used	18,472,617	1,983,079	9,927,732	2,349,854	6,271,307	494,053	9,554,975	6,963,268	2,083,989	4,743,984	1,378,982	576,048,687
Net Change in Inventories	6,522	1,775	-1,068	2,155	446	-9,931	208	-4,928	- 377	1,173	20,957	- 184,974
Total Production Reported	18,479,139	1,984,854	9,926,664	2,352,009	6,271,753	484,122	9,555,183	6,958,340	2,083,612	4,745,157	1,399,939	575,863,713
Percent of Estimated Production	91.3	82.5	93.5	99.1	93.9	82.5	99.8	99.1	87.1	96.4	75.0	94.3

PRODUCTION OF BITUMINOUS COAL AND LIGNITE BY CONSOLIDATED SIZE GROUPS DURING THE YEAR ENDED MARCH 31, 1945
AS REPORTED ON FORMS S.F.A. NOS. 38 AND 56.
(In Net Tons of 2,000 pounds)

TABLE 6

(Includes mines with an average daily capacity of 50 tons or more and all mines, washeries, and preparation plants with rail or river connections.)

District and Movement	All Lump Coal and All Double Screened Coal with Top Size Over 2" (1)		All Double Screened Coal with Top Size not exceeding 2" (2)		M/R Mod. M/R Dom. M/R Screened and Altered M/R and Minus Resultant with Top Size Over 2" (3)		All Minus Resultant and Dedusted Screenings with Top Size Over 3/4" and not exceeding 2" (4)		All Minus Resultant and Dedusted Screenings with Top Size not exceeding 3/4" (5)		Total Columns 1 through 5 (6)		Size not reported (7)	Coal used at mines1/ (8)	Net change in inventory (9)	Grand total Columns 6 through 9 (10)
	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent				
District 1. Eastern Pennsylvania																
Total	3,007,129	6.0	2,317,357	4.6	32,979,963	65.4	4,362,880	8.6	7,782,801	15.4	50,450,130	100.0	238,083	613,072	- 12,298	51,288,987
Truck	138,999	10.5	48,227	3.6	973,891	73.4	73,128	5.5	92,049	7.0	1,326,294	100.0	10,887			
Railroad fuel 2/	450,029	5.3	63,319	.7	7,731,342	90.3	53,964	.7	258,768	3.0	8,557,422	100.0	9,928			
Other 3/	2,418,101	6.0	2,205,811	5.4	24,274,730	59.9	4,235,788	10.4	7,431,984	18.3	40,566,414	100.0	217,268			
District 2. Western Pennsylvania																
Total	9,777,578	12.1	2,979,035	3.7	57,959,979	71.6	7,983,665	9.9	2,230,520	2.7	80,930,777	100.0	202,295	409,861	14,629	81,557,562
Truck	1,629,947	38.4	375,062	8.8	1,207,569	28.5	827,190	19.5	204,000	4.8	4,243,768	100.0	34,236			
Railroad fuel 2/	1,545,511	13.7	176,806	1.6	8,747,293	77.4	743,694	6.6	75,422	.7	11,288,726	100.0	26,739			
Other 3/	6,602,120	10.1	2,427,167	3.7	48,005,117	73.4	6,412,781	9.8	1,951,098	3.0	65,398,283	100.0	141,320			
District 3. Northern West Virginia																
Total	8,555,226	19.9	3,415,190	8.0	23,059,139	53.7	3,357,663	7.8	4,544,421	10.6	42,931,639	100.0	136,917	140,476	39,960	43,248,992
Truck	76,901	38.3	47,335	23.6	72,587	36.1	4,106	2.0	40	4/	200,969	100.0	4,131			
Railroad fuel 2/	3,713,761	26.7	286,963	2.1	9,768,405	70.2	76,193	.5	73,014	.5	13,918,336	100.0	28,907			
Other 3/	4,764,564	16.5	3,080,892	10.7	13,218,147	45.9	3,277,364	11.4	4,471,367	15.5	28,812,334	100.0	103,879			
District 4. Ohio																
Total	6,528,919	21.5	1,380,802	4.6	14,488,938	47.7	6,085,431	20.0	1,898,422	6.2	30,382,512	100.0	864,260	101,342	8,353	31,356,467
Truck	1,025,568	24.7	310,476	7.4	1,987,410	47.8	698,621	16.8	137,757	3.3	4,159,832	100.0	41,183			
Railroad fuel 2/	1,390,124	14.2	28,580	.3	8,088,188	82.5	268,470	2.7	25,222	.3	9,800,584	100.0	8,208			
Other	4,113,227	25.0	1,041,746	6.3	4,413,340	26.9	5,118,340	31.2	1,735,443	10.6	16,422,096	100.0	814,869			
District 5. Michigan																
Total	71,611	68.2	-	-	7,037	6.7	26,342	25.1	-	-	104,990	100.0	-	8,790	640	114,420
Truck	35,614	71.0	-	-	-	-	14,531	29.0	-	-	50,145	100.0	-			
Railroad fuel	10,136	87.1	-	-	1,501	12.9	-	-	-	-	11,637	100.0	-			
Other	25,861	59.9	-	-	5,536	12.8	11,811	27.3	-	-	43,208	100.0	-			
District 6. Panhandle																
Total	787,309	15.8	272,865	5.5	3,344,872	67.1	289,865	5.8	288,275	5.8	4,983,186	100.0	54,231	3,538	- 4,914	5,036,041
Truck	211,951	34.3	24,600	4.0	300,469	48.7	64,022	10.4	16,186	2.6	617,228	100.0	46,138			
Railroad fuel 2/	101,938	7.9	4,034	.3	1,162,600	89.4	15,429	1.2	16,104	1.2	1,300,105	100.0	-			
Other	473,420	15.4	244,231	8.0	1,881,803	61.4	210,414	6.9	255,985	8.3	3,065,853	100.0	8,093			
District 7. Southern No. 1																
Total	12,210,670	20.7	5,223,203	8.8	18,834,628	31.9	5,405,927	9.2	17,350,865	29.4	59,025,293	100.0	246,112	777,252	- 94,509	59,954,148
Truck	107,134	58.8	46,108	25.3	28,310	15.5	216	.1	584	.3	182,352	100.0	434			
Railroad fuel 2/	64,722	6.9	14,968	1.6	681,846	72.7	55,277	5.9	121,460	12.9	938,273	100.0	18,332			
Other	12,038,814	20.8	5,162,127	8.9	18,124,472	31.3	5,350,434	9.2	17,228,821	29.8	57,904,668	100.0	227,346			
District 8. Southern No. 2																
Total	33,922,886	28.8	9,414,022	8.0	39,697,328	33.7	28,412,043	24.2	6,230,348	5.3	117,676,627	100.0	380,895	855,537	-158,989	118,754,070
Truck	688,277	72.6	38,698	4.1	183,426	19.3	28,611	3.1	8,719	.9	947,731	100.0	12,631			
Railroad fuel 2/	1,190,541	7.4	276,408	1.7	12,507,741	77.7	2,044,578	12.7	82,471	.5	16,101,739	100.0	81,238			
Other	32,044,068	31.8	9,098,916	9.0	27,006,161	26.9	26,338,854	26.2	6,139,158	6.1	100,627,157	100.0	287,026			

TABLE 6

PRODUCTION OF BITUMINOUS COAL AND LIGNITE BY CONSOLIDATED SIZE GROUPS DURING THE YEAR ENDED MARCH 31, 1945
AS REPORTED ON FORMS S.F.A. NOS. 38 AND 56 (Continued)

District and Movement	All Lump Coal and All Double Screened Coal with Top Size Over 2" (1)		All Double Screened Coal with Top Size not exceeding 2" (2)		M/R Mod. M/R Dom. M/R Screened and Altered M/R and Minus Resultant with Top Size Over 2" (3)		All Minus Resultant and Dedusted Screenings with Top Size Over 3/4" and not exceeding 2" (4)		All Minus Resultant and Dedusted Screenings with Top Size not exceeding 3/4" (5)		Total Columns 1 through 5 (6)		Size not reported (7)	Coal used at mines 1/ (8)	Net change in inventory (9)	Grand total Columns 6 through 9 (10)
	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent				
District 9. West Kentucky																
Total	4,799,711	30.0	950,348	5.9	6,662,336	41.7	3,176,422	19.9	395,476	2.5	15,984,293	100.0	23,164	97,064	- 7,110	16,097,411
Truck	364,573	76.2	28,659	6.0	38,953	8.2	39,836	8.3	6,142	1.3	478,163	100.0	19,713			
Railroad fuel 2/	943,533	14.3	54,248	.8	5,384,115	81.6	150,348	2.3	67,188	1.0	6,599,432	100.0	2,200			
Other	3,491,605	39.2	867,441	9.8	1,239,268	13.9	2,986,238	33.5	322,146	3.6	8,906,698	100.0	1,251			
District 10. Illinois																
Total	24,456,050	33.0	4,082,716	5.5	16,186,948	21.8	25,847,013	34.8	3,663,632	4.9	74,236,359	100.0	115,964	1,173,353	- 11,697	75,513,979
Truck	3,091,286	54.2	814,871	14.2	49,290	.9	1,573,672	27.6	179,121	3.1	5,708,240	100.0	97,566			
Railroad fuel 2/	11,303,262	45.7	586,077	2.4	10,312,444	41.7	2,422,910	9.8	97,282	.4	24,721,975	100.0	10,353			
Other 3/	10,061,502	23.0	2,681,768	6.1	5,825,214	13.3	21,850,431	49.9	3,387,229	7.7	43,806,144	100.0	8,045			
District 11. Indiana																
Total	11,462,857	43.1	2,115,283	8.0	2,061,997	7.8	9,640,414	36.3	1,292,771	4.8	26,573,322	100.0	222,494	158,190	22,325	26,976,331
Truck	914,718	51.7	214,943	12.1	375,817	21.2	223,895	12.6	41,707	2.4	1,771,080	100.0	38,522			
Railroad fuel	7,684,375	78.9	161,164	1.7	1,522,390	15.6	365,268	3.8	2,600	4/	9,735,797	100.0	66,285			
Other	2,863,764	19.0	1,739,176	11.5	163,790	1.1	9,051,251	60.1	1,248,464	8.3	15,066,445	100.0	117,687			
District 12. Iowa																
Total	663,806	40.0	65,436	3.9	41,331	2.5	889,140	53.6	443	4/	1,660,156	100.0	43,164	19,509	1,704	1,724,533
Truck	328,430	48.4	43,295	6.4	18,236	2.7	288,201	42.5	443	4/	678,605	100.0	36,980			
Railroad fuel	179,757	79.8	-	-	-	-	45,599	20.2	-	-	225,356	100.0	1,032			
Others	155,619	20.6	22,141	2.9	23,095	3.1	555,340	73.4	-	-	756,195	100.0	5,152			
District 13. Southeastern																
Total	2,025,410	11.1	367,600	2.0	7,007,101	38.4	8,759,984	48.1	68,280	.4	18,228,375	100.0	56,124	188,118	6,522	18,479,139
Truck	191,563	47.3	26,790	6.6	152,924	37.7	22,694	5.6	11,491	2.8	405,462	100.0	7,250			
Railroad fuel	33,246	.9	5,715	.1	3,878,627	97.7	53,317	1.3	-	-	3,970,905	100.0	239			
Other 3/	1,800,601	13.0	335,095	2.4	2,975,550	21.5	8,683,973	62.7	56,789	.4	13,852,008	100.0	48,635			
District 14. Arkansas and Oklahoma																
Total	1,066,030	54.4	68,845	3.5	540,032	27.6	140,522	7.2	142,412	7.3	1,957,841	100.0	14,949	10,289	1,775	1,984,854
Truck	9,607	66.2	1,299	8.9	3,611	24.9	-	-	-	-	14,517	100.0	2,615			
Railroad fuel	9,487	4.3	2,478	1.1	200,339	91.7	774	.4	5,352	2.5	218,430	100.0	204			
Other	1,046,936	60.7	65,068	3.8	336,082	19.5	139,748	8.1	137,060	7.9	1,724,894	100.0	12,130			
District 15. Southwestern																
Total	4,195,271	42.6	675,588	6.9	5/ 1,902,008	19.3	3,071,537	31.2	2,275	4/	9,846,679	100.0	32,958	48,095	- 1,068	9,926,664
Truck	549,981	61.7	53,029	6.0	140,248	15.7	146,563	16.5	1,136	.1	890,957	100.0	5,349			
Railroad fuel	1,149,501	55.9	13,813	.7	834,514	40.6	58,012	2.8	-	-	2,055,840	100.0	12,387			
Other	2,495,789	36.2	608,746	8.8	5/ 927,246	13.4	2,866,962	41.6	1,139	4/	6,899,882	100.0	15,222			
District 16. Northern Colorado																
Total	912,191	39.8	214,798	9.4	30,340	1.3	954,395	41.7	179,845	7.8	2,291,569	100.0	871	57,414	2,155	2,352,009
Truck	372,997	49.0	132,583	17.4	9,994	1.3	216,796	28.4	29,464	3.9	761,834	100.0	594			
Railroad fuel	73,575	70.4	-	-	67	4/	30,869	29.6	-	-	104,511	100.0	-			
Other	465,619	32.7	82,215	5.8	20,279	1.4	706,730	49.6	150,381	10.5	1,425,224	100.0	277			
District 17. Southern Colorado																
Total	2,006,236	32.7	97,237	1.6	1,701,918	27.8	2,232,650	36.4	94,461	1.5	6,132,502	100.0	22,040	116,765	446	6,271,753
Truck	302,063	61.5	11,210	2.3	6,448	1.3	165,339	33.7	6,072	1.2	491,132	100.0	7,299			
Railroad fuel	69,199	3.4	15,099	.8	1,514,157	75.6	400,275	20.0	4,921	.2	2,003,651	100.0	4,668			
Other 3/	1,634,974	44.9	70,928	2.0	181,313	5.0	1,667,036	45.8	83,468	2.3	3,637,719	100.0	10,073			

TABLE 6

PRODUCTION OF BITUMINOUS COAL AND LIGNITE BY CONSOLIDATED SIZE GROUPS DURING THE YEAR ENDED MARCH 31, 1945 AS REPORTED ON FORMS S.F.A. NOS. 38 AND 56 (Continued)

125248

District and Movement	All Lump Coal and All Double Screened Coal with Top Size Over 2" (1)		All Double Screened Coal with Top Size not exceeding 2" (2)		M/R Mod. M/R Dom. M/R Screened and Altered M/R and Minus Resultant with Top Size Over 2" (3)		All Minus Resultant and Dedusted Screenings with Top Size Over 3/4" and not exceeding 2" (4)		All Minus Resultant and Dedusted Screenings with Top Size not exceeding 3/4" (5)		Total Columns 1 through 5 (6)		Size not reported (7)	Coal used at mines1/ (8)	Net change in inventory (9)	Grand total Columns 6 through 9 (10)
	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent				
District 18. New Mexico																
Total	326,094	70.0	22,202	4.7	6,849	1.5	104,914	22.5	6,094	1.3	466,153	100.0	1,574	26,326	- 9,931	484,122
Truck	21,234	65.9	3,982	12.3	6,849	21.2	180	.6	-	-	32,245	100.0	1,574			
Railroad fuel	224,412	73.1	-	-	-	-	77,008	25.1	5,365	1.8	306,785	100.0	-			
Other	80,448	63.3	18,220	14.3	-	-	27,726	21.8	729	.6	127,123	100.0	-			
District 19. Wyoming																
Total	1,359,198	14.4	148,588	1.6	6,574,792	69.8	1,321,825	14.0	16,838	.2	9,421,241	100.0	1,430	132,304	208	9,555,183
Truck	78,745	77.1	9,469	9.3	264	.3	13,593	13.3	-	-	102,071	100.0	11			
Railroad fuel	378,320	5.3	22,081	.3	6,379,241	89.0	387,614	5.4	-	-	7,167,256	100.0	-			
Other 3/	902,133	41.9	117,038	5.4	195,287	9.1	920,618	42.8	16,838	.8	2,151,914	100.0	1,419			
District 20. Utah																
Total	2,201,681	31.7	122,049	1.8	2,574,559	37.1	1,975,475	28.5	60,881	.9	6,934,645	100.0	494	28,129	- 4,928	6,958,340
Truck	160,025	77.2	1,597	.8	1,251	.6	44,393	21.4	-	-	207,266	100.0	389			
Railroad fuel	68,664	6.8	16,520	1.7	538,906	53.1	389,657	38.4	303	4/	1,014,050	100.0	-			
Other	1,972,992	34.5	103,932	1.8	2,034,402	35.6	1,541,425	27.0	60,578	1.1	5,713,329	100.0	105			
District 21. North and South Dakota																
Total	859,105	43.8	214,190	10.9	5/ 554,673	28.2	6/ 335,826	17.1	7/	7/	1,963,794	100.0	-	120,195	- 377	2,083,612
Truck	47,017	43.4	5,001	4.6	55,150	51.0	1,046	1.0	-	-	108,214	100.0	-			
Railroad fuel	15,813	13.7	794	.7	77,732	67.4	21,001	18.2	-	-	115,340	100.0	-			
Other	796,275	45.8	208,395	12.0	5/ 421,791	24.2	313,779	18.0	-	-	1,740,240	100.0	-			
District 22. Montana																
Total	528,854	11.2	181,923	3.8	3,581,367	75.8	276,607	5.9	157,139	3.3	4,725,890	100.0	1,553	16,541	1,173	4,745,157
Truck	43,848	81.2	6,482	12.0	-	-	3,392	6.2	305	.6	54,027	100.0	-			
Railroad fuel	25,721	.7	6,089	.2	3,516,600	95.6	101,094	2.7	29,494	.8	3,678,998	100.0	-			
Other	459,285	46.3	169,352	17.1	64,767	6.5	172,121	17.3	127,340	12.8	992,865	100.0	1,553			
District 23. Washington Only																
Total	273,278	29.2	290,766	31.0	37,608	4.0	191,139	20.4	143,963	15.4	936,754	100.0	414,965	27,263	20,957	1,399,939
Truck	163,259	49.5	159,279	48.3	1,382	.4	2,726	.8	3,358	1.0	330,004	100.0	75			
Railroad fuel	2,418	5.0	347	.7	2,460	5.0	55	.1	43,390	89.2	48,670	100.0	414,650			
Other 3/	107,601	19.3	131,140	23.5	33,766	6.0	188,358	33.8	97,215	17.4	558,080	100.0	240			
GRAND TOTAL	131,997,100	23.3	34,620,043	6.1	239,835,743	42.2	114,841,679	20.2	46,550,162	8.2	567,844,727	100.0	3,074,537	5,129,423	- 184,974	575,863,713
Truck	10,553,737	44.4	2,402,995	10.1	5,614,079	23.7	4,452,751	18.7	738,574	3.1	23,762,136	100.0	367,577			
Railroad fuel	30,628,045	24.7	1,735,503	1.4	82,850,508	66.9	7,761,406	6.3	908,356	.7	123,883,818	100.0	685,370			
Other	90,815,318	21.6	30,481,545	7.3	151,371,156	36.0	102,627,522	24.4	44,903,232	10.7	420,198,773	100.0	2,021,590			

1/ Includes coal used to produce coal, coal used by mine employees, and coal made into briquets or packaged fuel at the reporting mine
2/ Includes all methods of movement except tidewater and lake.
3/ Includes shipments by truck to byproduct and beehive coke ovens away from the producing mine and for smithing use as follows: District 1, 61,379 tons; District 2, 1,355,368 tons; District 3, 18,931 tons; District 10, 114,888 tons; District 13, 15,741 tons; District 17, 236 tons; District 19, 53 tons; District 23, 2,907 tons.
4/ Less than one-tenth of one percent.
5/ Includes some crushed lignite.
6/ Includes all screenings. Breakdown of size of screenings not reported.
7/ Included with "All minus resultant and dedusted screenings with top size over 3/4" and not exceeding 2".

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

HAROLD L. ICKES, Secretary R. R. SAYERS, Director

FEB 11 1946

For release February 3, 1946.

MINERAL MARKET REPORTS
M. M. S. NO. 1385

IRON ORE IN 1945 - PRELIMINARY

Termination of war contracts, accompanied by decreases in steel production resulted in a 6 percent drop in iron ore production in 1945, according to the Bureau of Mines, United States Department of the Interior. Decreases were apparent in all districts in 1945, but the total output (88,754,000 gross tons) was 20 percent greater than in the record peace year, 1940.

Shipments of iron ore in 1945 decreased 7 percent from 1944 and amounted to 88,156,000 gross tons. The estimated value of iron ore shipments in 1945 was $240,900,000 compared with $256,885,512 in 1944. The average values per gross ton were $2.73 in 1945 and $2.70 in 1944.

Production and shipments of ore containing (natural) 5 to 35 percent manganese, not included in the iron ore statistics amounted to 1,390,000 tons and 1,445,000 tons respectively during 1945. The Lake Superior district furnished 94 percent of production and shipments during the year.

Stocks of iron ore at mines on December 31, 1945 were estimated at 4,735,000 gross tons compared with 4,136,639 tons at the end of 1944, an increase of 14 percent. Seventy-six percent of the stocks at the end of 1945 were at mines in the Lake Superior district compared with 77 percent in 1944. An additional 464,000 tons of by-product ore were in stockpiles in producers plants at the close of 1944.

The 5-year period 1941-45 has set an iron ore production record that is likely to stand for many years. During this period, a total of 482,000,000 gross tons of usable ore was produced at United States mines and mills. Crude ore mined during this period approximated 565,000,000 tons.

There were at least 16 States in which iron ore was mined in 1945, and 2 others (Delaware and Tennessee) that produced and shipped by-product ore obtained from pyrites. In this report the States, excepting those producing only by-product ore have been sub-divided into 4 main groups, namely the Lake Superior district, Southeastern States, Northeastern States and Western States.

Lake Superior District. - The production and shipments of iron ore (exclusive of ore containing 5 percent or more manganese) from the Lake Superior district in 1945 were estimated at 75,071,000 tons and 74,624,000 tons respectively. These represent decreases of 5 percent in production and 8 percent in shipments from 1944.

Prepared by Norwood B. Melcher under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

In addition to the iron ore, 1,307,000 gross tons of ore containing over 5 percent manganese were produced during 1945; shipments of this material from mines totaled 1,366,000 tons. The final cargo of iron ore from the Lake Superior district for the 1945 season was carried by the vessel J. C. Williams which cleared Escanaba harbor on December 5. In 1944, the final cargo left Ashland harbor on November 28. The first ore was loaded at Escanaba on April 2, 1945 and at the same port April 5 of the previous year.

Stocks of ore at mines in the Lake Superior district at the end of the year amounted to 3,626,000 tons compared with 3,178,581 tons at the end of 1944.

The total value of ore shipped from mines in the Lake Superior district is estimated at $191,300,000, a decrease of 6 percent from 1944. The average value per ton in 1945 was estimated at $2.56 compared with $2.52 in 1944. After the close of the 1945 season the Office of Price Administration granted increases of 10 cents per ton for Mesabi ores, and 20 cents for Old Range ores. These increases were effective for the entire shipping season of 1945, and applied only to ore shipped for sale. In 1945 the tonnage so shipped amounted to about 19,000,000 gross tons.

Southeastern States. - Production of iron ore in the Southeastern States (Alabama, Georgia and Virginia) in 1945 totaled 6,369,000 tons, a decrease of 11 percent from 1944. Shipments from mines decreased 10 percent and amounted to 6,355,000 tons. Stocks of iron ore at mines, virtually all in Alabama, were estimated at 56,000 tons. The value of iron ore shipped in 1945 from Southeastern mines was estimated at $16,500,000, or $2.60 per gross ton.

Most of the ore produced in this district is hematite from mines near Birmingham, Alabama. Brown ore is produced in both Alabama and Georgia by numerous companies, most of them independent, who ship to blast furnaces in the Birmingham area. Ore produced in Virginia is brown ore for use as a pigment.

Northeastern States. - The Northeastern States in 1945 produced 3,680,000 gross tons of iron ore compared with 3,849,396 tons in 1944, a decrease of 4 percent. Mine shipments during the year totaled 3,427,000 tons, 2 percent less than in 1944. The total value of 1945 shipments was estimated at $25,000,000, or an average value of $7.30 per ton. In 1944 the average value per ton was $7.34. Mine stocks at the end of the year were estimated at 927,000 tons, an increase of nearly 40 percent over 1944.

The important mines in this district are the Mt. Hope, Richard and Scrub Oaks in Morris County, New Jersey, and the Washington mine in Warren County; the Old Bed-Harmony, Fisher Hill and McIntyre mines in Essex County, New York, the Chateaugay in Clinton County and the Benson and Clifton mines in St. Lawrence County. Virtually all of the iron ore produced in Pennsylvania comes from the Cornwall mine in Lebanon County.

Western States. - Utah, in supplying a part of the iron ore requirements for California and Colorado furnaces as well as 2 plants in Utah, continued to be the largest producer in the Western States in 1945. Production of iron ore in these States totaled 3,102,000 gross tons, a decrease of 10 percent from 1944. Shipments from mines decreased 2 percent and amounted to 3,190,000 tons valued at $5,300,000. The value per ton f.o.b. mines was estimated at $1.66 in 1945.

By-product ore. - The production of by-product ore (iron cinder and sinter obtained from the pyrites industry) decreased 10 percent from 1944 and totaled 532,000 gross tons. Shipments from mills amounted to 560,000 tons, and the estimated value was $2,800,000. In 1944 production and shipments amounted to 592,908 tons and 591,040 tons respectively, and the value of shipments was $2,906,656. By-product ore is produced chiefly in the Southeastern States.

Estimates of iron ore produced and shipped in the United States in 1945 and actual output in 1944

UNIVERSITY OF ILLINOIS

	Ore produced (Gross tons)		Ore shipped			
			1944		1945	
	1944	1945	Gross tons	Value	Gross tons	Value
Lake Superior:						
Michigan----------	12,826,240	11,932,000	13,693,377	$ 38,537,000	11,880,000	$191,300,000
Minnesota---------	64,878,095	61,774,000	65,448,402	160,853,166	61,450,000	
Wisconsin---------	1,406,985	1,365,000	1,536,737	4,190,380	1,294,000	
	79,111,320	75,071,000	80,678,516	203,580,546	74,624,000	191,300,000
Southeastern States:						
Alabama-----------	6,829,437	6,097,000	6,808,111	17,684,154	6,082,000	16,500,000
Georgia-----------	292,239	272,000	292,239	(1)	273,000	
Virginia----------						
	7,121,676	6,369,000	7,100,350	(1)	6,355,000	16,500,000
Northeastern States:						
New Jersey--------	499,732	432,000	498,799	3,455,213	431,000	25,000,000
New York----------	3,349,664	3,248,000	3,005,476	22,282,001	2,996,000	
Pennsylvania------						
	3,849,396	3,680,000	3,504,275	25,737,214	3,427,000	25,000,000
Western States:						
California--------	809,196	211,000	634,264	1,844,948	296,000	5,300,000
Utah--------------	1,542,284	1,987,000	1,540,594	1,742,876	1,991,000	
Wyoming-----------	713,759	602,000	713,759	(1)	602,000	
Other-------------	377,166	302,000	372,877		301,000	
	3,442,405	3,102,000	3,261,494	(1)	3,190,000	5,300,000
By-product ore 2/---	592,908	532,000	591,040	2,906,656	560,000	2,800,000
Grand total-------	94,117,705	88,754,000	95,135,675	256,885,512	88,156,000	240,900,000

1/ Included in Grand Total.

2/ Obtained from pyrites treated in, but not necessarily mined in Delaware, Michigan, Pennsylvania, Tennessee and Virginia.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

HAROLD L. ICKES, Secretary R. R. SAYERS, Director

FOR RELEASE February 8, 1946

MINERAL MARKET REPORTS
MMS NO. 1386

LEAD AND ZINC PIGMENTS AND ZINC SALTS IN 1945
(Preliminary Annual Report)

All pigments in the group covered by the lead and zinc pigments canvass trended downward in 1945, according to the Bureau of Mines, United States Department of the Interior. Lead pigments decreased more than the zinc group, as was to have been anticipated because of the difference in the relative abundance of the crude materials for their manufacture.

Provisions of chemicals order M-384 caused white lead to bear the brunt of the curtailment in use of lead in 1945. In consequence white lead (dry) declined 41 percent and white lead in oil fell 40 percent from 1944; the former was the smallest since 1934 and the latter was the smallest since considerably before the beginning of the present century. Basic lead sulfate, classed with basic carbonate white lead in the chemicals order, dropped 35 percent in sales, as compared with 1944 with a total that approximated the one for 1903, having been exceeded by every intervening year. Sales of red lead in 1945, although 16 percent below 1944 and the smallest since 1940, compared favorably with years prior to 1941. Sales of litharge, whose preponderant use is in the manufacture of storage batteries (control of which was retained under lead Order M-38), were only 4 percent below 1944 and higher than in any other year.

Sales of zinc oxide decreased 9 percent from those for 1944, but were relatively high except when compared with the war years - 1941-44 - and the period of industrial activity in the late twenties. Leaded zinc oxide, which was subject to restriction control for the first time early in 1945, dropped 2 percent in sales as compared with 1944, but were higher than in any years other than 1941 and 1944. Lithopone sales were low as compared with most years in the period 1925-41 and were 4 percent less than in 1944.

Titanium pigments reached new high levels in both production and sales in 1945 with supplies inadequate for all requirements owing to plant capacity limitations.

The raw material needs for making lead pigments are met almost entirely by metal whereas requirements for zinc pigment manufacture, particularly for leaded zinc oxide and zinc oxide, come largely from ores. This difference has favored zinc pigments during the war period because supplies of ore were more abundant than were those of either metal. Although lead metal was more plentiful than zinc at the beginning of the war, lead supplies became progressively less able to accommodate requirements as the war advanced. Zinc restrictions were removed after V-J day.

Prepared by Helena M. Meyer and Alethea W. Mitchell, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Lead allotments to chemical manufacturers were raised in the fourth quarter of 1945, but as the outlook for obtaining sufficient lead to supply all requirements failed to show improvement and even deteriorated, Order M-384 was revoked, lead chemicals control reverted to Order M-38 and first quarter 1946 allowances were reduced. Thus, at the end of 1945, lead was one of the few commodities whose disposition continued to be controlled by the Civilian Production Administration (War Production Board until November 1, 1945).

Most authorities agree that postwar consumption of lead and zinc pigments as a whole will be at higher levels than ever before experienced. The paint industry is one of the principal outlets for pigments and the building industry is a principal user of paints. According to figures released by the F. W. Dodge Corporation late in 1945, new building construction was expected to aggregate $7,400,000,000 in 1946, $10,400,000,000 in 1947, $13,700,000,000 in 1948 and to an average annual rate of $15,000,000,000 in 1949-51. This authority estimated expenditures of $750,000,000 to $850,000,000 for repairs, maintenance painting and modernization of old buildings with a probable peak of $1,400,000,000 annually at a relatively early period. Continued shortages of lead, some essential oils and other products, and labor difficulties due to shortages and unrest will impede the early attainment of the foregoing estimates as well as the early high production rates for the automobile industry, another predominant user of pigments. The restriction to $200 (except under special priority) on the cost of construction for individual families were removed, effective October 15. The industry was unable, however, owing to various supply and manpower shortages, to take care of the enormous demand thus released. As a consequence, restrictions on a different basis were imposed, effective January 15, 1946. The new restrictions dealt primarily with preferences for construction of homes for returning veterans. Sales of paint, varnish and lacquer materials on a value basis, as reported by the Department of Commerce, were well on the way to a new peak annual total even allowing for less than an average rate for December. Sales for 11 months of 1945 totaled $601,043,828 compared with $574,333,153 in the corresponding period of 1944. Month by month sales in 1945 were consistently above 1944 except for a narrow margin in favor of 1944 in June and larger differences in favor of 1944 in August and September.

Preliminary 1945 figures for zinc chloride indicate that production and shipments of this product were close to the recent high rate for 1944. These figures include the zinc chloride equivalent of zinc ammonium chloride and chromated zinc chloride. Shipments of zinc sulfate reached new high-record proportions in 1945, exceeding the total for 1944 by 23 percent and the previous peak in 1941 by 10 percent.

Some lead and zinc pigments and zinc salts sold by domestic manufacturers in the United States, 1943-45, in short tons

	1943	1944	1945 1/
Basic lead sulfate 2/ or sublimed lead:			
White	4,752	5,253	4,100
Blue	845	1,080	
Red lead	53,378	53,972	45,400
Orange mineral	79	284	35
Litharge	113,091	138,203	132,300
White lead:			
Dry	39,525	46,466	27,400
In oil 3/	36,642	39,260	23,400
Zinc oxide	143,402	140,675	127,600
Leaded zinc oxide	43,828	64,395	63,000
Lithopone	135,723	142,905	136,600
Zinc chloride, 50°B	53,707	57,545	56,800
Zinc sulfate	15,649	17,156	21,100

1/ Designated as shipments in 1945. 2/ Exclusive of basic lead sulfate used for the manufacture of leaded zinc oxide which is included in tonnages shown for that pigment. 3/ Weight of white lead only.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

HAROLD L. ICKES, Secretary R. R. SAYERS, Director

For release February 8, 1946.

MINERAL MARKET REPORTS
M. M. S. NO. 1387

ZINC INDUSTRY IN 1945 - PRELIMINARY

Smelter production of slab zinc continued to decline in 1945 but was at a higher level than in prewar years, according to the Bureau of Mines, United States Department of the Interior. Production from both domestic and foreign ores was lower, but output of redistilled secondary slab zinc remained virtually unchanged. The decline was largely the result of the critical shortage of manpower at mines and smelters. Imports of slab zinc increased 48 percent over 1944 to reach the highest level since 1919. Imports of zinc in ore and exports of slab zinc were 10 percent and 76 percent less, respectively, than in 1944. Despite the decline in smelter output, the total produced plus net imports exceeded the consumption of slab zinc with the result that producers' and consumers' stocks were higher at the end of the year than at the beginning. Galvanizing, which was displaced in 1942 by brass products, returned to first place in 1945 as the principal use of zinc. The ceiling price of 8.25 cents a pound, East St. Louis, remained unchanged throughout the year, and payments under the Premium Price Plan continued to be made by the Metals Reserve Company (Office of Metals Reserve after July 2).

Production. - Total domestic production of slab zinc including primary metal from domestic and foreign ores and redistilled secondary from scrap (based on producers' monthly reports for twelve months) was 813,700 tons, a decrease of 11 percent from 1944 and 18 percent from the record established in 1943.

Preliminary estimates of domestic mine production of recoverable zinc in 1945 indicate an output of 615,927 short tons, a decrease of 14 percent from 1944. New Jersey advanced in rank from third to first among the States in the United States in zinc production passing Idaho, and Oklahoma; the latter third in 1944 had ranked first since 1933.

Stocks. - Following a general decline during the first four months of the year inventories of slab zinc at producers' plants continued to rise in 1945, and at the end of the year were 11 percent above the inventories on January 1.

Consumers' stocks on November 30 were 4,023 tons (6 percent) greater than at the beginning of the year. The total increase as indicated may be partially eliminated when final data for 1945 are available for the inventories at consumers' plants have been declining steadily since July 31 when the stocks totaled 88,993 tons.

Prepared by Richard H. Mote and Esther B. Miller, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Foreign trade. - Total imports of zinc in ore and concentrates in 1945 (based on figures for 11 months and an estimate for December) declined 10 percent from 1944. Of the 382,500 tons of zinc imported in ore and concentrates, approximately 48 percent came from Mexico, 24 percent from Canada, 9 percent from Chile (substantially all of which originated in Bolivia and was shipped from Chilean ports), 8 percent from Peru, 6 percent from Newfoundland and Labrador, and 4 percent from Australia. Imports from Australia were the only ones to reach the United States from the Eastern Hemisphere. Estimates of slab zinc imports indicate an increase of 48 percent over 1944 and the greatest tonnage of any year since 1919. Imports from Mexico remained virtually the same but Canadian imports were over 100 percent greater than the 1944 total. Exports of slab zinc were 76 percent less than in 1944.

Consumption. - Slab zinc (primary and redistilled secondary) available to domestic consumers in 1945 amounted to about 877,000 tons, a decrease of 2 percent from the record total of 897,299 tons calculated for 1944. Actual consumption of 475 plants during 11 months of 1945 (approximately 789,500 tons) plus an estimate for December gives a figure of 849,500 tons which includes 4,570 tons of remelt zinc. A comparison of the calculated figure of slab zinc available to consumers and actual consumption (including an estimate for December) indicate that coverage of the monthly survey is about 97 percent. With the end of the war the two major use categories of slab zinc returned to their prewar relationship. Galvanizing reappeared in its position as the principal use of slab zinc, whereas brass products, through a declining demand for ammunition, slipped to second place. The quantity used for zinc-base alloys was over 50 percent greater than in 1944. The use of zinc in rolled zinc also increased in 1945.

Zinc-reduction plants. - There was no change in the number of active zinc smelters and electrolytic plants in 1945, but operations were considerably below capacity due to the critical shortage of labor which noticeably retarded the output of plants in the Central and Southwestern States. In December the smelters at Fairmont City and Monsanto, Illinois, were closed by strike. The smelter at Moundsville, West Virginia, closed in July and did not operate the balance of the year.

Prices. - The ceiling price for Prime Western grade slab zinc f.o.b. East St. Louis remained at 8.25 cents a pound throughout 1945. Subsidy payments under the Premium Price Plan for over-quota production continued to be paid to domestic mine operators. On December 31, 1945, subsidy payments were terminated to smelters treating Tri-State region concentrates.

War agency regulations. - During 1945 all Government controls with regard to zinc were eliminated. Conservation Order M-11-b, which established restrictions and prohibitions on the use of zinc and zinc products, was revoked on June 14. General Preference Order M-11-1, relating to deliveries of zinc dust and General Preference order M-11-a, outlining zinc oxide allocations and restrictions were also cancelled, on May 26 and August 20, respectively. Import controls on slab zinc were removed on September 5.

Acknowledgement. - The Bureau of Mines acknowledges with appreciation the generous cooperation of the American Zinc Institute in the collection of statistics on the zinc industry.

Table 1. - Primary and redistilled secondary slab zinc produced in the United States, 1944-1945, in short tons

Year	Primary			Redistilled secondary	Total (excludes remelted)
	Domestic	Foreign	Total		
1944	574,453	1/294,849	869,302	49,037	918,339
1945 (preliminary)	504,900	1/260,100	765,000	48,700	813,700

1/ Includes a small tonnage of foreign slab zinc further refined into high grade metal in the United.

Table 2. - Distilled and electrolytic zinc, primary and secondary, produced in the United States, 1944-1945, in short tons

Year	Electrolytic primary	Distilled primary	Redistilled secondary		Total
			At primary smelters	At secondary smelters	
1944..............	317,388	551,914	24,673	24,364	918,339
1945 (preliminary)	270,000	495,000	21,100	27,600	813,700

Apportioned according to grade

Year	Special high grade	Regular high grade	Intermediate	Brass special	Selected	Prime western	Total
1944........	251,210	251,595	55,928	54,396	24,396	280,814	918,339
1945 (preliminary)	214,700	192,100	47,850	77,700	20,600	260,750	813,700

Table 3. - Stocks of zinc on hand at primary and secondary zinc-reduction plants in the United States at end of 1944 and 1945, in short tons

Date	At primary plants	At secondary plants	Total 1/
December 31, 1944....	233,044	652	233,696
December 31, 1945 (preliminary).......	258,200	1,100	259,300

1/ Includes Metals Reserve Company stocks at producers' plants.

Table 4. - Consumers' stocks of slab zinc at plants at the beginning of 1945 and November 30, by industries and by grades, in short tons

Industries	Galvanizing	Zn-base alloy	Brass products	Rolled zinc	Zinc oxide	Others	Total
Jan. 1...............	27,230	5,112	25,754	4,862	736	1,475	1/65,219
Nov. 30.............	31,002	10,993	18,994	6,496	530	1,227	1/69,242

Grades	Special high grade	Regular high grade	Intermediate	Brass special	Select	Prime western	Total
Jan. 1.......	15,356	14,796	4,546	3,943	1,176	25,402	1/65,219
Nov. 30......	17,916	12,542	4,108	5,006	1,194	28,476	1/69,242

1/ Stocks on January 1 and November 30 exclude 429 tons and 448 tons, respectively, of remelt spelter.

Table 5. - Imports and exports of zinc in 1944 and 1945 in short tons

	Imports		Exports
	Zinc in ore	Slab zinc	Slab zinc
1944	422,700	63,626	21,576
1945 1/	382,500	94,000	5,100

1/ Estimate based on 11-months' import-export data.

Table 6. - Slab zinc available for shipment to consumers, in 1944-1945, in short tons

	1944	1945 (preliminary)
Supply: Stocks at primary smelters Jan. 1.	168,777	233,044
Stocks at secondary plants Jan. 1.	1,829	652
Production - primary	1/869,302	765,000
secondary redistilled	49,037	48,700
Imports of slab zinc	63,626	94,000
Total available	1,152,571	2/1,141,400
Withdrawn:		
Exports of slab zinc	21,576	5,100
Stocks at primary smelters Dec. 31	233,044	258,200
Stocks at secondary plants Dec. 31	652	1,100
Total withdrawn	255,272	264,400
Available to consumers	897,299	877,000

1/ Includes a small tonnage of foreign slab zinc further refined into high grade metal in the United States.

2/ Rounded figure.

Table 7. - Consumption of slab zinc in the United States in 1944, and Jan.-Nov., inclusive, 1945, by industries, in short tons

	Galvanizing	Zn-base alloy	Brass products	Rolled zinc	Zinc oxide	Other	Total
1944	315,991	84,521	381,927	76,524	20,198	9,465	1/888,626
1945:							
January	29,305	10,218	36,308	8,304	1,335	758	86,228
February	27,446	10,636	32,078	7,464	1,399	653	79,676
March	29,714	12,046	38,223	8,715	1,729	859	91,286
April	28,017	11,463	34,038	8,846	1,330	794	84,488
May	29,702	11,566	31,671	9,371	1,512	856	84,678
June	28,122	10,036	20,944	9,373	1,601	736	70,812
July	26,892	9,377	12,398	7,733	1,764	635	58,799
August	26,055	10,018	13,252	7,591	1,524	614	59,054
September	25,879	9,308	8,863	7,380	1,529	574	53,533
October	28,609	11,716	11,587	7,532	1,607	563	61,614
November	28,561	11,476	9,666	7,472	1,511	669	59,355
11-months' total	308,302	117,860	249,028	89,781	16,841	7,711	2/789,523
December estimate							60,000
							2/849,523

1/ Includes 6,982 tons of remelt zinc.

2/ Includes 4,570 tons of remelt zinc.

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MINERAL INDUSTRY SURVEYS

MAR 22 1946
UNIVERSITY OF ILLINOIS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

HAROLD L. ICKES, Secretary
R. R. SAYERS, Director

FOR RELEASE MARCH 18, 1946.

MINERAL MARKET REPORT
MMS. NO. ~~1957~~ 1388

BARITE IN THE FOURTH QUARTER 1945 - PRELIMINARY FIGURES FOR YEAR 1945.

More barite was produced in the United States in 1945 than during any previous year, according to producers reports to the Bureau of Mines, United States Department of the Interior. Output of primary barite reached 690,152 short tons, 34 percent greater than the previous record year, 1944. Arkansas accounted for the greatest production, 260,662 tons, and Missouri followed with 221,038 tons. The tremendous demand for barite in weighting rotary oil well drilling muds stimulated the completion of new capacity in 1945, especially in Arkansas and Missouri. Shipments of ground barite to well drillers reached the record total of 413,620 short tons, about three times average prewar shipments. Primary barite includes and is limited to ground barite produced at El Portal, Calif.; flotation barite produced at Malvern, Ark., and Cartersville, Ga.; and all crude, lump, and pebble barite produced in the United States except a very small amount of hand-mined material not included in the canvass. The term primary barite is intended to encompass production of all barite regardless of the form in which it is marketed, but is intended to exclude as a duplication any ground or crushed barite which has already been included as lump material.

Imports of crude and ground barite into the United States for consumption, in the fourth quarter of 1945, by countries

Country	October		November		December		Total	
	Short tons	Value	Short tons	Value	Short tons	Value	Short tons	Value
Crude barite:								
Canada.......	2,520	$14,318	4,458	$25,328	—	—	6,978	$39,646
Mexico.......	254	1,572	—	—	—	—	254	1,572
	2,774	$15,890	4,458	$25,328	—	—	7,232	$41,218
Ground barite:								
Canada.......	—	—	—	—	1	$15	1	$15

Imports of crude and ground barite into the United States for consumption, during the four quarters of 1945, by countries

Country	1st quarter	2nd quarter	3rd quarter	4th quarter	Total for year	
	Short tons	Short tons	Short tons	Short tons	Short tons	Value
Crude barite:						
Canada.......	2,288	18,446	21,774	6,978	49,486	$327,242
Mexico.......	994	2,234	1,616	254	5,098	25,952
Cuba.........	2,307	—	—	—	2,307	29,417
	5,589	20,680	23,390	7,232	56,891	$382,611

Production, consumption, and stocks of barite during the fourth quarter of 1944 and 1945, in short tons

	October		November		December		Total for quarter	
	1944	1945	1944	1945	1944	1945	1944	1945
Production of primary barite by States:								
Georgia	10,627	8,974	9,620	7,932	6,569	5,278	26,816	22,184
Missouri	15,808	21,831	15,228	20,776	9,280	12,722	40,316	55,329
Tennessee	4,136	3,258	3,490	2,867	1,940	1,618	9,566	7,743
Other States	22,173	33,830	18,566	26,297	19,000	24,962	1/59,739	1/85,089
	52,744	67,893	46,904	57,872	36,789	44,580	136,437	170,345
Consumption of domestic primary barite by Uses:								
Well drilling	26,054	36,645	30,171	35,883	25,249	26,512	81,474	99,040
Chemicals	4,984	7,852	3,847	7,619	2,722	6,135	11,553	21,606
Lithopone	15,559	14,567	9,193	11,009	5,813	7,876	30,565	33,452
Glass	1,862	1,969	2,141	2,652	1,948	1,318	5,951	5,939
Filler	2,367	3,352	3,604	2,719	2,904	2,382	8,875	8,453
	50,826	64,385	48,956	59,882	38,636	44,223	138,418	168,490
Production of ground and crushed barite	30,608	44,319	34,698	41,707	32,477	37,309	97,783	123,335
Crude barite stocks end of month:								
Held by producers, crushers, and grinders of crude barite	27,846	39,746	25,811	38,803	25,955	32,510	--	--

1/ Includes Arkansas, California, Nevada, and North Carolina.

Production, consumption, and stocks of barite during the four quarters of 1944 and 1945, in short tons

	1st quarter		2nd quarter		3rd quarter		4th quarter		Total for year	
	1944	1945	1944	1945	1944	1945	1944	1945	1944	1945
Production of primary barite by States:										
Arkansas.............	(1/)	55,613	(1/)	66,643	(1/)	68,288	(1/)	70,118	(1/)	260,662
Georgia.............	20,409	28,139	24,391	27,881	33,267	31,278	26,816	22,184	104,883	109,482
Missouri.............	28,227	46,234	34,482	57,197	43,783	2/62,278	40,316	55,329	146,808	221,038
Tennessee...........	9,789	7,713	9,151	8,546	11,844	9,473	9,566	7,743	40,350	33,475
Other States.........	3/38,525	4/ 7,578	5/57,046	6/17,110	5/69,231	6/25,836	6/59,739	7/14,971	5/224,541	7/65,495
	96,950	145,277	125,070	177,377	158,125	2/197,153	136,437	170,345	516,582	690,152
Consumption of domestic primary barite by Uses:										
Well drilling........	54,811	91,781	63,667	122,115	76,511	2/100,684	81,474	99,040	276,463	413,620
Chemicals............	31,174	15,724	41,616	16,801	56,018	23,112	42,118	21,606	170,926	77,243
Lithopone............		22,075		26,027		36,896		33,452		118,450
Glass...............	4,943	5,991	7,808	6,388	8,191	6,422	5,951	5,939	26,893	24,740
Filler..............	7,574	8,833	9,844	11,484	9,635	2/ 9,855	8,875	8,453	35,928	38,625
	98,502	144,404	122,935	182,815	150,355	176,969	138,418	168,490	510,210	672,678
Production of ground and crushed barite.........	71,524	111,622	84,151	135,029	92,524	119,490	97,783	123,335	345,982	489,476
Crude barite stocks end of quarter:										
Held by producers, crushers, and grinders of crude barite......	20,719	22,069	21,609	21,109	27,808	2/ 37,925	25,955	32,510	--	--

1/ Included in Other States.
2/ Revised figures. 3/ Includes Arkansas, California, and South Carolina. 4/ Includes California and North Carolina.
5/ Includes Arkansas, California, Nevada, North Carolina, and South Carolina. 6/ Includes California, Nevada, and North Carolina.
7/ Includes Arkansas, California, Nevada, and North Carolina.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

FEB 14 1947
UNIVERSITY OF ILL.

FOR RELEASE MARCH 13, 1946. MINERAL MARKET REPORT, NO. MMS.1389.

RECORD SALES OF FUEL OIL AND KEROSINE IN 1944

Dealers reported record sales of fuel oil and kerosine in 1944, according to a canvass by the Petroleum Economics Division, Bureau of Mines, United States Department of the Interior. Domestic sales of fuel oil for civilian and military purpose as reported by distributing companies rose from 690,189,000 barrels in 1943 to 753,284,000 in 1944 – a gain of 9 percent. Deliveries of kerosine, which have varied little since 1940, increased by 5 percent from 67,815,000 barrels in 1943 to 71,214,000 in 1944. Exports of fuel oil, reflecting peak war activities, expanded by 44 percent from 39,851,000 barrels in 1943 to 57,172,000 in 1944; however, the foreign demand for kerosine – 4,765,000 barrels in 1944 – differed only slightly from the 1943 total.

Most of the principal uses of fuel oil expanded noticeably in 1944. Ships' bunkers registered an outstanding gain of 44 percent in 1944 and were followed by oil-company uses – up 17 percent. Sales of fuel oil reported for military purposes in 1944 were 14 percent over the 1943 total, and deliveries to gas and electric power plants reached a record volume 10 percent above 1943 requirements. Smelters, mines, and manufacturing plants bought 4 percent more fuel oil in 1944 than in 1943, while the quantity credited to the railroads in 1944 varied little from the previous year. Deliveries of heating oils to consumers, controlled by strict rationing, declined by 2 percent in 1944.

Sales of distillate and residual fuel oil[1] 1940-1944, by uses
(Thousands of barrels of 42 gallons)

Uses	1940	1941	1942	1943	1944	Percent of change in 1944 compared with 1943
Railroads	68,098	85,510	106,484	124,886	125,162	0.2
Vessels (including tankers)	74,803	67,635	46,717	73,265	105,256	43.7
Gas and electric power plants	32,795	38,774	33,805	36,812	40,313	9.5
Smelters, mines, and manufacturing industries	73,940	88,387	97,132	99,344	103,617	4.3
Heating oils	160,379	167,514	168,989	155,251	152,203	- 2.0
No. 1 fuel oil sold as range oil	3,977	4,449	4,978	5,876	6,619	12.6
U.S. Navy, Army, and Coast Guard	17,183	28,739	67,800	126,096	144,226	14.4
Oil Company fuel	51,928	55,297	45,935	48,007	56,344	17.4
Miscellaneous uses	15,655	18,024	20,306	20,652	19,544	- 5.4
Total United States	498,758	554,329	592.146	690,189	753,284	9.1
Exports and Shipments	35,249	31,039	33,670	39,851	57,172	43.5
	534,007	585,368	625,816	730,040	810,456	11.0

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[1] Includes some crude oil burned as fuel.

Prepared by A. T. Coumbe, Petroleum Economics Division, Economics and Statistics Branch.

Sales of distillate and residual fuel oil by uses on a percentage basis, 1940-1944

Uses	1940	1941	1942	1943	1944
Railroads	13.7	15.4	18.0	18.1	16.6
Vessels (Including tankers)	15.0	12.2	7.9	10.6	14.0
Gas and electric power plants	6.6	7.0	5.7	5.3	5.3
Smelters, mines, and manufacturing industries	14.8	16.0	16.4	14.4	13.8
Heating oils	32.2	30.2	28.5	22.5	20.2
No. 1 fuel oil sold as range oil	0.8	0.8	0.8	0.8	0.9
U. S. Navy, Army, and Coast Guard	3.4	5.2	11.5	18.3	19.1
Oil Company fuel	10.4	10.0	7.8	7.0	7.5
Miscellaneous uses	3.1	3.2	3.4	3.0	2.6
Total United States	100.0	100.0	100.0	100.0	100.0

It is noted that total deliveries of fuel oil for both 1943 and 1944, as reported in the sales survey, are somewhat above the corresponding indicated demands as taken from the Monthly Petroleum Statements released by the Bureau of Mines over these same periods. It is known that the Navy Department, in accordance with directives of the Petroleum Administration for War resold considerable quantities of fuel oil for essential civilian uses, and it is believed that these resales account for the overages in question. It is further believed that the several principal demands for fuel oil, other than military purposes, are essentially correct as reported by the oil companies in this survey. The extent of apparent duplication in deliveries of fuel oil for the armed forces as shown in the records of the Navy Department is reviewed under the general subject "United States Navy, Army, and Coast Guard."

Sales of distillate fuel oil1/ 1940-1944, by uses
(Thousands of barrels of 42 gallons)

Uses	1940	1941	1942	1943	1944	Percent of change in 1944 compared with 1943
Railroads	3,194	4,945	6,488	8,608	10,627	23.5
Vessels (including tankers)	13,249	10,957	8,900	11,069	13,187	19.1
Gas and electric power plants	4,561	5,152	5,704	5,954	5,837	- 2.0
Smelters, mines, and manufacturing industries	7,330	10,363	12,617	15,125	16,953	12.1
Heating oils	115,533	120,908	121,506	112,581	111,729	- 0.8
No. 1 fuel oil sold as range oil	3,977	4,449	4,978	5,876	6,619	12.6
U.S. Navy, Army, and Coast Guard	1,402	2,993	11,269	33,383	42,879	28.4
Oil company fuel	1,064	1,116	1,064	884	981	11.0
Miscellaneous uses	10,342	12,456	14,287	14,232	15,060	5.8
Total United States	160,652	173,339	186,813	207,712	223,872	7.8
Exports and Shipments	19,140	16,925	21,575	24,957	43,345	73.7
	179,792	190,264	208,388	232,669	267,217	14.8

1/ Includes some crude oil burned as fuel.

Sales of distillate fuel oil by uses on a percentage basis, 1940-1944

Uses	1940	1941	1942	1943	1944
Railroads	2.0	2.8	3.5	4.1	4.7
Vessels (including tankers)	8.2	6.3	4.7	5.3	5.9
Gas and electric power plants	2.8	3.0	3.1	2.9	2.6
Smelters, mines, and manufacturing industries	4.6	6.0	6.7	7.3	7.6
Heating oils	71.9	69.8	65.0	54.2	49.9
No. 1 fuel oil sold as range oil	2.5	2.6	2.7	2.8	3.0
U. S. Navy, Army, and Coast Guard	0.9	1.7	6.0	16.1	19.2
Oil company fuel	0.7	0.6	0.6	0.4	0.4
Miscellaneous uses	6.4	7.2	7.7	6.9	6.7
Total United States	100.0	100.0	100.0	100.0	100.0

Sales of residual fuel oil[1/] 1940-1944, by uses
(Thousands of barrels of 42 gallons)

Uses	1940	1941	1942	1943	1944	Percent of change in 1944 compared with 1943
Railroads	64,904	80,565	99,996	116,278	114,535	- 1.5
Vessels (including tankers)	61,554	56,678	37,817	62,196	92,069	48.0
Gas and electric power plants	28,234	33,622	28,101	30,858	34,476	11.7
Smelters, mines, and manufacturing industries	66,610	78,024	84,515	84,219	86,664	2.9
Heating oils	44,846	46,606	47,483	42,670	40,474	- 5.1
U. S. Navy, Army, and Coast Guard	15,781	25,746	56,531	92,713	101,347	9.3
Oil company fuel	50,864	54,181	44,871	47,123	55,363	17.5
Miscellaneous uses	5,313	5,568	6,019	6,420	4,484	- 30.2
Total United States	338,106	380,990	405,333	482,477	529,412	9.7
Exports and shipments	16,109	14,114	12,095	14,894	13,827	- 7.2
	354,215	395,104	417,428	497,371	543,239	9.2

[1/] Includes some crude oil burned as fuel.

Respective percentage increases in distillate and residual fuel oil sales were nearer the same level in 1944 than in 1943, when the demand for the lighter grades advanced only 11 percent in contrast to a gain of 19 percent for the heavier oils. Oil companies reported sales of 223,872,000 barrels of distillates in 1944 - an increase of 8 percent over the 1943 total of 207,712,000 - and the residual total in 1944 was higher by 10 percent (529,412,000 barrels in 1944 compared with 482,477,000 in 1943). Most of the greater demand for light fuel oils in 1943 was due to the rapidly expanding market for Diesel fuel, and this was repeated in 1944 when Diesel requirements continued to mount. A 30-million-barrel gain in heavy oil bunkers for vessels in 1944 accounted for the larger share of the increment in residual fuel oil deliveries; however, substantially higher military and oil-company fuel demands were also factors. Slightly less heavy fuel oil for the r[illegible]oads and for space heating was reported in 1944 than in 1943.

Sales of residual fuel oil by uses on a percentage basis, 1940-1944

Uses	1940	1941	1942	1943	1944
Railroads	19.2	21.2	24.7	24.1	21.6
Vessels (including tankers)	18.2	14.9	9.3	12.9	17.4
Gas and electric power plants	8.4	8.8	6.9	6.4	6.5
Smelters, mines, and manufacturing industries	19.7	20.5	20.9	17.5	16.4
Heating oils	13.3	12.2	11.7	8.8	7.6
U. S. Navy, Army, and Coast Guard	4.6	6.8	13.9	19.2	19.1
Oil company fuel	15.0	14.2	11.1	9.8	10.5
Miscellaneous uses	1.6	1.4	1.5	1.3	0.9
Total United States	100.0	100.0	100.0	100.0	100.0

Sales of kerosine and range oil, 1940-1944

Uses	1940	1941	1942	1943	1944	Percent of change in 1944 compared with 1943
Kerosine sold as range oil	40,715	41,661	39,945	38,221	41,017	7.3
Tractor fuel	4,683	4,467	5,137	5,869	6,143	4.7
All other uses	22,264	22,868	23,608	23,725	24,054	1.4
Total United States	67,662	68,996	68,690	67,815	71,214	5.0
Exports and shipments	3,374	3,221	2,576	4,752	4,765	0.3
	71,036	72,217	21,266	72,567	75,979	4.7
Kerosine sold as range oil	40,715	41,661	39,945	38,221	41,017	7.3
No. 1 fuel oil sold as range oil	3,977	4,449	4,978	5,876	6,619	12.6
Total range oil	44,692	46,110	44,923	44,097	47,636	8.0

The demand in 1945. - The 1945 domestic demand for fuel oil will be about 749,000,000 barrels - a 4-percent increase over a comparative total of 720,337,000 for 1944. The total for distillate grades was approximately 226,000,000 barrels or 8 percent over the 1944 indicated demand of 209,540,000 barrels. Domestic deliveries of heavy fuel oils approached 523,000,000 barrels or about a 2-percent gain over the 12 months' total of 510,797,000 for 1944. The market for kerosine increased by 5 percent from 71,935,000 barrels in 1944 to about 75,600,000 in 1945. Unusually high exports of distillates in 1944 of 43,345,000 barrels evidently declined to about 34,000,000 in 1945, while foreigh shipments of residual grades approximated 12,000,000 barrels in 1945 or 13 percent less than the 1944 volume of 13,827,000 barrels. There has been a heavier export demand for kerosine in 1945, and the total was about 6,200,000 barrels - a 30-percent increase over 1944 requirements of 4,765,000 barrels.

An estimate of the principal demands for fuel oil in 1945, based on available data, is as follows: Railroads, 128,100,000 barrels; bunkering of vessels, 122,000,000 barrels; gas and electric power plants, 41,450,000 barrels; industrial fuel, 115,000,000 barrels; light heating oils, 125,000,000 barrels; heavy heating [illegible], 46,500,000 barrels; No. 1 fuel oil for range burners, 8,600,000 barrels; [illegible] company fuel, 60,000,000 barrels; military requirements and miscellaneous uses [illegible]000,000 barrels.

Railroads.- Sales to the railroads of 125,162,000 barrels of fuel oil in 1944 varied little from 1943 deliveries of 124,886,000; this economy was realized even though the number of passengers carried in 1944 increased by 32 percent, and the volume of revenue paying freight was maintained at the high 1943 level, according to information compiled by the Interstate Commerce Commission. It was formerly believed that the fuel-oil requirements of the railroads would approach a wartime peak in 1943 or 1944; however, available 1945 statistics indicate a further increase due largely to greatly expanded purchases of Diesel fuel. Fuel oil credited to railroads accounted for about 17 percent of all principal uses in 1944 compared with 18-percent shares in both 1942 and 1943.

Heavy or residual oil reported for railroad fuel decreased slightly from 116,278,000 barrels in 1943 to 114,535,000 in 1944; nevertheless, light grades, mostly Diesel fuel, mounted noticeably from 8,608,000 barrels in 1943 to 10,627,000 in 1944 - a 24-percent gain. Diesel fuels, considered separately, increased from 6,212,000 barrels in 1943 to 8,325,000 in 1944 or 34 percent.

Railroads in all parts of the country, except in the Rocky Mountain area, purchased slightly less heavy fuel oil in 1944 than in 1943. Requirements in the South Central States, an area accounting for about half of the demand, declined by 3 percent from 57,408,000 barrels in 1943 to 55,650,000 in 1944. Approximately 40 percent of the residual fuel oil credited to the railroads is marketed on the Pacific coast, where 1944 deliveries of 45,946,000 barrels were slightly below the 1943 total of 47,084,000 barrels. Relatively smaller quantities of heavy fuel oil are used in the Rocky Mountain States, but sales in the area increased by 17 percent from 7,515,000 barrels in 1943 to 8,789,000 in 1944. The remaining parts of the country are not important regarding railroad demand for residual grades, and the respective quantities reported for 1944 were all below 1943 totals.

All sections of the country reported greatly increased sales of Diesel fuel to the railroads in 1944. Roads operating in the North Central States require the larger share (27 percent in 1943 and 28 percent in 1944) of the Diesel fuel total, and reported sales in the area increased by 39 percent from 1,674,000 barrels in 1943 to 2,323,000 in 1944. About a quarter of the Diesel fuel demand of the railroads is found in the South Central States, and requirements there expended from 1,535,000 barrels in 1943 to 1,893,000 in 1944. The Pacific coast ranks third in importance as a market for railroad Diesel fuel, and the gain in that area was outstanding in 1944, when sales of 1,414,000 barrels were 51 percent over the 1943 total of 937,000 barrels. The South Atlantic States are another section that reports large deliveries of Diesel oils for railroad use, the total increasing from 803,000 barrels in 1943 to 1,075,000 in 1944.

The extent of the rapidly growing need of Diesel fuel by the railroads can be better understood when it is noticed that official records show Diesel equipment totaling 3,049 units at the end of 1944 - a gain of about 28 percent over the 1943 figure of 2,125. Details making up these items show that the units employed in hauling freight increased from 308 in 1943 to 774 in 1944; Diesel passenger engine rose from 269 in 1943 to 292 in 1944 and switching engines from 1,548 in 1943 to 1,983 in 1944.

Vessels.- Fuel-oil sales to vessels for bunkers rose sharply for a second consecutive year; the record total for 1944 - 105,256,000 barrels - was 44 percent over 1943 loadings of 73,265,000 barrels. The bunker requirements of vessels engaged in foreign trade made the larger gain in 1943, and this was repeated in 1944 as statistics released by the Bureau of the Census, United States Department of Commerce (69,753,000 barrels in 1944 compared with 47,880,000 in 1943), show that this demand in 1944 was 46 percent over 1943. Oil bunkers deliver to ships using coastal and inland waterways were also substantially higher - 40 percent - in 1944. Furthermore, the bunker total - foreign and coastal - in 1944 represented 14 percent of all fuel-oil sales compared with an 11-percent share in 1943.

All areas reported increased bunker deliveries in 1944; however, most of the expansion was confined to the Atlantic and Pacific coasts, where overseas traffic to war zones was a most important factor. Ships operating out of Atlantic ports accounted for 58 percent of the oil-bunker trade in 1944 (52 per-
nt in 1943), and the quantities delivered increased by 59 percent - from

38,151,000 barrels in 1943 to 60,827,000 in 1944. There was likewise an outstanding gain for vessels sailing from the West coast, where the bunker demand rose from 20,266,000 barrels in 1943 to 28,185,000 in 1944, or by 39 percent. The bunker trade in the Gulf area, which declined in 1943 due to a sharp drop in the oil-tanker traffic, turned upward again in 1944, when loadings were 14,569,000 barrels or 9 percent above the 1943 total of 13,393,000 barrels.

Heavy fuel-oil bunkers again in 1944 as in 1943 made a higher percentage gain than was reported for the Diesel grades. Oil companies indicated sales of 92,069,000 barrels of residual fuel oil to vessels in 1944 - a 48-percent increase over the 1943 total of 62,196,000 while Diesel fuel credited to vessels-12,755,000 barrels in 1944 - was 22 percent over 1943 loadings of 10,472,000 barrels. Deliveries of heavy fuel oil to vessels at Atlantic ports - 53,025,000 barrels - were 67 percent over 1943 takings of 31,759,000 barrels, while for Diesel grades in the same area the total was 7,544,000 barrels in 1944 or 22 percent above 1943 requirements of 6,183,000 barrels. The heavy oil sold to vessels at Atlantic ports represented 58 percent of the national total in 1944 (51 percent in 1943) and the Diesel-fuel item for the area was 59 percent of the vessel demand for both 1943 and 1944. Ships loading at Pacific ports took about 28 percent of the heavy fuel-oil bunkers in 1944, and the total for the year - 25,322,000 barrels - was 40 percent over the 1943 item - 18,056,000 barrels. About one fifth of the Diesel-fuel trade in ships' bunkers is reported from the west coast, and sales there expanded from 1,987,000 barrels in 1943 to 2,819,000 in 1944. There was only a comparatively moderate increase in the bunker business in heavy fuel oils at Gulf ports, the quantity rising from 11,424,000 barrels in 1943 to 12,513,000 in 1944. Diesel bunkers in the same area where 1,968,000 barrels in 1944 or 7 percent over 1943 loadings of 1,846,000 barrels.

Gas and electric power plants.- Sales of fuel oil to gas and electric power plants rose to record volume in 1944, when deliveries (40,313,000 barrels) were 10 percent over 1943 requirements (36,812,000 barrels). About 5 percent of total fuel-oil sales for all principal uses were credited to the public utilities in 1943 and 1944, in comparison with about a 7-percent share in other years. Quantities used to generate electric energy made the greater relative gain, as consumption records compiled by the Federal Power Commission show 20,866,000 barrels of fuel oil used in 1944, a 16-percent gain over the 1943 total of 18,036,000 barrels, while manufactured-gas companies consumed 19,921,000 barrels of fuel oil in 1944 or 8 percent more than 1943 requirements of 18,391,000 barrels, according to the American Gas Association.

Records of the Federal Power Commission reveal that electricity produced by fuels increased by 7 percent - from 147,027 millions of kilowatt-hours in 1943 to 156,704 in 1944; however, only about 5 percent of the total was generated by the use of oil as fuel for both years, while the proportion credited to coal declined from 83 percent in 1943 to 81 percent in 1944 and the share of the total electric energy for gas increased from 12 percent in 1943 to 14 percent in 1944. The American Gas Association has indicated that total oil-consumption figures for the manufactured-gas industry comprised the following items: 17,393,000 barrels of fuel oil for carbureting water gas in 1944 compared with 16,015,000 in 1943; 1,982,000 barrels in 1944 and 2,029,000 in 1943 for making water gas and 546,000 barrels of oil for boiler fuel in 1944 against 347,000 in 1943.

All areas, except the Pacific coast and South Central States, reported expanded deliveries of fuel oil to gas and electric power plants in 1944 compared with 1943. Sales of fuel oil to public utilities on the East coast, which made up 60 percent of the national total in 1943 and 70 percent in 1944, increased in volume from 21,970,000 barrels in 1943 to 28,142,000 in 1944, a gain of 28 percent in contrast to a small decline in 1943 compared with 1942. The highest relative gain in fuel-oil sales to the public utilities was reported for the New England States where the quantity expanded by 73 percent from 3,595,000 barrels in 1943 to 6,207,000 in 1944. Important increases were also shown for other portions o the East coast, as deliveries in the Middle Atlantic States mounted from 12,077 barrels in 1943 to 14,090,000 in 1944 - a 17-percent gain - and those for the South Atlantic States (7,845,000 barrels in 1944) were 25 percent over 1943 requirements of 6,298,000 barrels. The gain (6 percent) in fuel-oil sale

3,029,000 barrels in 1944 compared with 2,847,000 in 1943, while the demand in the South Central area dropped by 2 percent from 2,393,000 barrels in 1943 to 2,340,000 in 1944. Public utilities operating in the Pacific Coast States purchased 6,503,000 barrels of fuel oil in 1944 or about 31 percent less than the 1943 total of 9,383,000 barrels. The smaller requirements in 1944 were partly due to the use of some stored fuel oil already on hand.

Diesel fuel reported as sold to gas and electric power plants increased by 17 percent from 2,206,000 barrels in 1943 to 2,583,000 in 1944. Public utilities operating in the South Central States made the greatest relative gain in their purchases of Diesel fuel, the quantity increasing by 54 percent from 536,000 barrels in 1943 to 825,000 in 1944. There was also a gain in this trade in the North Central States - 898,000 barrels in 1944 compared with 852,000 in 1943; however, in the South Atlantic area, where the volume is also important, the quantity declined by 26 percent from 446,000 barrels in 1943 to 331,000 in 1944.

Smelters, mines, and manufacturing plants. - A greater volume of fuel oil was available generally in 1944, and consequently deliveries for industrial use increased slightly-4 percent - from 99,344,000 barrels in 1943 to 103,617,000 in 1944, even though the index of manufacturing as compiled by the Federal Reserve Board dropped from 258 in 1943 to 252 in 1944 and even though strict rationing of fuel-oil supplies and conversions to other fuels continued to be enforced under wartime regulations. The quantity of fuel oil reported as industrial fuel constituted about 14 percent of total sales for all purposes in 1944 and 1943 in contrast to a 16-percent share in 1942. The greater relative gain in deliveries to industrial plants is found in the distillate grades, including Diesel fuel, which increased by 12 percent from 15,125,000 barrels in 1943 to 16,953,000 in 1944. Industrial requirements for heavy fuel oil of 86,664,000 barrels in 1944 were about 3 percent over the 1943 total of 84,219,000 barrels.

All parts of the country reported gains in fuel-oil sales for industrial purposes in 1944 except the South Central and New England areas, where declines were relatively small. Deliveries in the East coast as a whole, where approximately 50 percent of the industrial fuel oil is consumed, increased by 2 percent from 48,738,000 barrels in 1943 to 49,689,000 in 1944; however, the gain there was limited to the distillate and Diesel grades, which were up about 22 percent (8,370,000 barrels in 1944 compared with 6,889,000 in 1943), while the industrial demand for residual fuel oils in the same area declined slightly from 41,849,000 barrels in 1943 to 41,319,000 in 1944. A 10-percent loss in heavy fuel-oil deliveries to industrial plants in New England (8,766,000 barrels in 1943 and 7,892,000 in 1944) was partly counterbalanced by a 12-percent gain for the light grades - 880,000 barrels in 1943 and 987,000 in 1944. Industrial fuel-oil sales followed a similar pattern in the Middle Atlantic States, where the demand for heavy fuel oil declined by 2 percent from 27,882,000 barrels in 1943 to 27,265,000 in 1944; conversely, the market for distillates, including Diesel fuel, increased by 34 percent from 4,810,000 barrels in 1943 to 6,438,000 in 1944. The South Atlantic States reported a 19-percent gain (5,201,000 barrels in 1943 and 6,162,000 in 1944) in requirements for heavy fuel oil for industrial establishments; however, the light grades, whose volume is not relatively important, dropped from 1,199,000 barrels in 1943 to 945,000 in 1944.

Industrial fuel oils marketed in the South Central States account for only about 5 percent of the national demand, and there a 12-percent loss for the heavier grades (3,855,000 barrels in 1943 and 3,376,000 in 1944) was partly eased by a 28-percent gain reported for distillates - 1,743,000 barrels in 1944 compared with 1,358,000 in 1943. The North Central States take about 30 percent of the fuel oil diverted for industrial consumption, and sales in that area increased by 12 percent from 28,399,000 barrels in 1943 to 31,714,000 in 1944. This expansion in the demand was evident in both light and heavy grades, distillates increasing from [illegible]4,000 barrels in 1943 to 5,847,000 in 1944, while requirements for heavy fuel oil by industrial plants mounted from 22,665,000 barrels in 1943 to 25,867,000 in 1944 - a 14 percent rise. The volume of fuel oil credited to industries in the Pacific coast (about 16 percent of the national total) of 16,130,000 barrels in 1944 differed little from the 1943 total of 16,028,000 barrels. Residual grades [illegible]ere up slightly - 15,304,000 barrels in 1944 compared with 15,040,000 in 1943; [illegible]wever, the market for industrial fuel oil of the lighter grades in the area [illegible]clined from 988,000 barrels in 1943 to 826,000 in 1944.

Heating oils. - A second year of rationing and milder weather resulted in a 2-percent drop in heating oil sales from 155,251,000 barrels in 1943 to 152,203,000 in 1944. Viewed in another way heating oils represented only 20 percent of the national demand for fuel oils for all purposes in 1944 compared with nearly a 23-percent proportion in 1943 and about a 30-percent share in pre-war times. Sales of heavy heating oils (grades 5 & 6) declined by 5 percent from 42,670,000 barrels in 1943 to 40,474,000 in 1944, while the drop in distillates (grades 1 to 4) was less pronounced - 1 percent - or from 112,581,000 barrels in 1943 to 111,729,000 in 1944. The relative share of light oils in the heating oil total has expanded gradually, advancing from 72 percent of the demand in 1940 to well over 73 percent in 1944, and the heavier grades have contracted proportionately. It should be noted further that the proportionate share of No. 2 grade has declined from about 65 percent of the 1941 total for light heating oils to less than 62 percent of 1944 deliveries - shrinkage evidently due largely to the rapidly rising demand for Diesel fuel - a competitive use. Also the relative proportion of No. 4 grade has dropped from over 3 percent of the distillate heating oil total in 1941 to 2 percent in 1944 - a change probably resulting from the gradual scrapping of some older-type burners which were designed to use heavier distillate.

The lower heating oil sales in 1944 were evident in all parts of the country except on the Pacific Coast and in the adjacent Rocky Mountain area. Requirements on the West Coast rose by 22 percent from 17,283,000 barrels in 1943 to 21,028,000 in 1944 - an expansion in demand evidently resulting from a mounting population under war conditions. Both distillate and residual heating oils showed increases in the Pacific area, the market for light grades increasing by 29 percent from 10,255,000 barrels in 1943 to 13,227,000 in 1944 and heavy oils were up 11 percent from 7,028,000 barrels in 1943 to a total of 7,801,000 in 1944. Heating oils used in the Rocky Mountain States are mostly distillates and the quantity reported showed a moderate advance from 808,000 barrels in 1943 to 870,000 in 1944, while the meager demand for residual grades declined.

Dealers operating in the East Coast area reported 56 percent of all heating oil sales in 1944, and in that important market deliveries, under rationing and wartime distribution difficulties, declined from 89,348,000 barrels in 1943 to 85,301,000 in 1944 - nearly a 5-percent shrinkage. Sales of distillate grades in the Atlantic Coast States dropped by 3 percent from 65,082,000 barrels in 1943 to 62,968,000 in 1944, while the volume for heavier oils contracted even more drastically - 8 percent - from 24,266,000 barrels in 1943 to 22,333,000 in 1944. Lower deliveries of both light and heavy heating oils were reported from all sections of the East Coast area in 1944.

About one quarter of all heating oils are consumed in the North Central States and in that part of the country deliveries dropped from 40,861,000 barrels in 1943 to 38,670,000 in 1944 - a 5-percent decline. The loss for the lighter heating oils was relatively less than for the heavier grades in that market - distillates, 31,541,000 barrels in 1943 and 30,145,000 in 1944 - were down 4 percent, while the decline in sales of residual heating oils - 9,320,000 barrels in 1943 and 8,525,000 in 1944 was nearly 9 percent. The deep south, represented by the South Central States is relatively an unimportant market for heating oils. Deliveries there of 6,263,000 barrels in 1944 were about 9 percent below the 1943 total of 6,854,000 barrels. Both light and heavy grades of heating oils showed declines in that area in 1944.

Range oil. - The greater availability of kerosine in 1944 and the need of saving fuel by using space heaters instead of central heating plants where practical, were factors in the 8 percent rise in deliveries of range oil from 44,097,000 barrels in 1943 to 47,636,000 in 1944. Oil sold for range burners is usually kerosine, however a small but growing percentage of the total is No. 1 fuel oil, which is very similar to kerosine and is usually satisfactory as fuel for the purpose. Incidently the No. 1 fuel oil sold as range oil has increased from 9 percent of the total in 1940 to a 14-percent share in 1944 and kerosine [illegible] percent [illegible]red for the same use has declined proportionately. Kerosine reported for range use increased by 7 percent from 38,221,000 barrels in 1943 to 41,017,000 in 1944, while the No. 1 fuel oil delivered for this trade was 6,619,000 barrels in 1944 or 13 percent over the 1943 total of 5,876,000 barrels.

Increased sales of range oil were reported from all sections of the country in 1944. New England consumes over 40 percent of the range oil sold nationally and there requirements increased by 7 percent from 18,418,000 barrels in 1943 to 19,609,000 in 1944. The Middle Atlantic States are the second most important market for range oil and dealers in that area report over a quarter of the total, their sales of 12,475,000 barrels in 1944 being 10 percent over the 1943 demand of 11,335,000 barrels. The North Central States are the only other part of the country where range oil is a relatively important fuel and quantities handled represent about one fifth of total deliveries. Sales of range oil in the North Central States increased by 3 percent from 8,827,000 barrels in 1943 to 9,094,000 in 1944.

U. S. Navy, Army and Coast Guard.- 1/ Oil Companies reported sales of 144,226,000 barrels of fuel oil to the military services in 1944 - a 14 percent gain over the 1943 total of 126,096,000 barrels. Official records, now available, reveal that the New York Naval Pool, under directives of the Petroleum Administration for War, returned 20,369,000 barrels of fuel oil in 1943 and 33,069,000 in 1944 to the oil companies for resale for essential civilian needs. Therefore it is believed that military requirements for 1943 and 1944 were over-reported by the respective amounts mentioned above. This duplication apparently affects residual fuel in 1943 and both light and heavy oils in 1944 and is probably confined to sales in the Gulf and East Coast areas only. No adjustments in the detailed statistics of this survey are feasible as quantities for the several grades of fuel oil that should be deducted from the various state totals are not available. It is further believed that the principal civilian demands for 1943 and 1944 as represented in this survey are essentially correct and should remain as indicated.

Sales of heavy fuel oil - Navy grade and residual - as reported, increased from 92,713,000 barrels in 1943 to 101,347,000 in 1944 - a gain of 9 percent, while the volume for distillate grades including Diesel fuel advanced by 28 percent from 33,383,000 barrels in 1943 to 42,879,000 in 1944. Military requirements for Diesel fuel nearly doubled in 1944, (33,000,000 barrels in 1944 compared with 18,351,000 in 1943) due to the greatly expanded use of Diesel-propelled equipment both ashore and afloat. Increased deliveries of fuel oil for military use were indicated for the Atlantic and Gulf Coast areas in 1944, however quantities declined on the West coast and in the North Central States. Sales of heavy fuel oil on the Atlantic Coast of 22,965,000 barrels in 1944 were more than double the 1943 quantity of 10,408,000 barrels. All parts of the East coast showed expanded deliveries of residual grades in 1944, however the relatively greater volume was credited to the Middle Atlantic States, where sales of 15,631,000 barrels in 1944 compare with a demand of 6,899,000 in 1943. Oil companies reported 14,247,000 barrels of distillate fuel oils, including Diesel grades, for military uses in the East Coast area in 1944 - a quantity well above the 1943 total of 6,293,000 barrels. Deliveries of heavy fuel oil to the military services in the South Central States - mostly in Texas and Louisiana - increased from 28,602,000 barrels in 1943 to 32,105,000 in 1944 - a 12-percent increment - while the volume for distillates and Diesel fuel advanced by 23 percent from 18,135,000 barrels in 1943 to 22,333,000 in 1944.

Oil dealers operating in the Pacific Coast area reported sales of 47,983,000 barrels of fuel oil to the U. S. Navy, Army, and Coast Guard in 1944 - a total 22 percent below the 1943 turnover of 61,510,000 barrels. It is known however, that the total military requirements in the West coast for 1944 were supplemented by large fuel oil shipments from the Rocky Mountain and South Central States, which deliveries were credited to the respective states of origin, where the original sales were made, and not to the states of destination on the West coast. Local oil companies reported 42,858,000 barrels of heavy fuel oil (Navy grade and residual) as

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1/ Sales of fuel oil in 1941, 1942 and 1943 for military consumption were considered as confidential until recently and therefore were combined with deliveries for miscellaneous civilian uses under the general heading of "all other uses." Details of military and "miscellaneous uses" by states and grades for the above years are now shown in supplementary tables at the nd of this report.

sold for military purposes in 1944 - a quantity 19 percent below the 1943 total of 52,933,000 barrels and distillate deliveries (including Diesel fuel) of 5,125,000 barrels in 1944 were also well below the 1943 total of 8,577,000 barrels.

Sales of fuel oil in the Rocky Mountain States for military use expanded from 63,000 barrels in 1943 to 3,875,000 in 1944, however the latter total reflects quantities sold locally for ultimate shipment to the Pacific northwest. Deliveries of fuel oil to the war services are not relatively important in the North Central States and the demand decreased from 1,085,000 barrels in 1943 to 718,000 in 1944.

Oil company fuel.- Expanded activities in the petroleum industry in 1944 measured by an 11-percent increase in crude production, about a 17-percent rise in crude runs to stills and a 29-percent gain in the number of wells drilled were reflected in a greater consumption of oil as fuel from 48,007,000 barrels in 1943 to 56,344,000 in 1944 - a 17 percent increase. These quantities represent about 7 percent of the total demand for fuel oil for all principal uses in both years. Practically all the oil used by oil companies is residual grade plus some crude petroleum and the total for these heavy oils rose from 47,123,000 barrels in 1943 to 55,363,000 in 1944. Distillates including Diesel grades are not used as fuel to any great extent by the petroleum industry, the quantities reported however increased from 884,000 barrels in 1943 to 981,000 in 1944.

Oil companies in all parts of the country indicated a higher consumption of fuel oil in 1944. Operators in the South Central States, where the production of crude was up 15 percent and crude runs to stills greater by 20 percent in 1944, used 17,378,000 barrels of oil as fuel in 1944 compared with 15,101,000 in 1943, a gain of 15 percent. Quantities for both years in this area represented about one-third of the total oil consumed nationally by the petroleum industry. Oil companies in the East Coast States refined about a third more crude petroleum in 1944 than in 1943 and there oil used as fuel increased by 10 percent from 13,856,000 barrels in 1943 to 15,183,000 in 1944. Reporting companies operating in the North Central States, where crude runs in 1944 were also higher, indicated the consumption of 11,594,000 barrels of fuel oil for the year compared with 10,516,000 in 1943.

Petroleum companies reporting from the Pacific Coast States showed a total of 10,211,000 barrels of fuel oil consumed in their operations in 1944 - about a 40-percent gain over 1943 requirements of 7,303,000 barrels. Increased activities in the area in 1944 are indicated by a 10-percent increase in crude production and 12 percent higher runs to stills. Comparatively small quantities of oil are consumed as company fuel in the Rocky Mountain States, however the total for the area increased from 1,231,000 barrels in 1943 to 1,978,000 in 1944.

Crude oil consumed as fuel by petroleum companies increased from 3,151,000 barrels in 1943 to 3,743,000 in 1944. The larger share of the 1944 quantity - 1,071,000 barrels - was reported from California, while Texas followed with 985,000 barrels and Louisiana ranked third with 501,000 barrels. Smaller quantities of crude petroleum were used by oil companies in about 15 other states.

Diesel fuel.- Sales of Diesel fuel under the stimulus of the war effort were up sharply in 1944 to a total of 70,230,000 barrels - a 43-percent gain over 1943 requirements of 49,127,000 barrels. It can be added that the Diesel-fuel item represented 31 percent of total sales of distillate-grade fuel oils in 1944 which compares with a 24 percent share in 1943 and an 18-percent proportion in 1942.

All principal industries and the military services purchased greatly expanded quantities of Diesel fuel in 1944. Reported sales of Diesel fuel to the Navy, Army, and Coast Guard registered an outstanding advance- 80 percent - the total increasing from 18,351,000 barrels in 1943 to 33,000,000 in 1944. It should be added that the total delivered to the armed forces represented 47 percent of [illegible] Diesel-fuel sales in 1944 compared with a 37-percent proportion in 1943. Rai[illegible] and vessels - the transportation industries - were also important buyers of Diesel fuel in 1944. The quantity credited to the railroads of 8,325,000 barrels in 1944 was 34 percent over 1943 requirements of 6,313,000 barrels, while oil companies reported Diesel-bunker sales to vessels of 12,755,000 barrels in 1944 or 22 percent over the 1943 record of 10,472,000 barrels. Oil dealers sold 5,481,000 barrels of Diesel fuel to smelters, mines, and manufacturing plants in 1944 or 12 percent more than in 1943, when deliveries were 4,913,000 barrels. Sales of Diesel oil to gas and electric power plants, fairly important consumers of this fuel, advanced by 17 percent from 2,206,000 barrels in 1943 to 2,583,000 in 1944. Oil companies use very little Diesel fuel in their operations as only 239,000 barrels were reported as consumed in 1944 and 196,000 in 1943.

The Pacific Coast area was the only section of the country which failed to report higher Diesel-fuel sales in 1944, the total of 13,657,000 barrels for the year being slightly below 1943 deliveries of 13,813,000 barrels. The most important expansion in Diesel-oil sales was reported for the South Central States, where sales in 1944 of 25,856,000 barrels represented 37 percent of the national total Diesel-oil requirements and were 89 percent over the 1943 volume of 13,716,000 barrels. It should be added that over 18,000,000 barrels of the 1944 Diesel total for the south central area was reported for military consumption. Diesel-fuel sales in the East Coast States rose to about one third of the country's total in 1944 and the quantity of 21,906,000 barrels was over 50 percent above the 1943 demand of 14,493,000 barrels. Most of the Diesel-fuel deliveries in the east coast section were credited to the Middle Atlantic States, where the quantity increased from 9,207,000 barrels in 1943 to 15,330,000 in 1944. About 10 percent of the Diesel-fuel total is reported from the North Central States and there the turn-over was 5,880,000 barrels in 1943 and 6,378,000 in 1944. Diesel-fuel deliveries in the Rocky Mountain States doubled in 1944 (2,424,000 barrels in 1944 compared with 1,225,000 in 1943), however it is known that part of the 1944 quantity was shipped to the Pacific northwest for military consumption.

Tractor fuel.- About one percent of distillate sales are reported as fuel for tractors and the quantity increased from 2,566,000 barrels in 1943 to 2,628,000 in 1944. Practically all of this demand is found in the central western area, where the total for the North Central States was 1,068,000 barrels in 1943 and 1,095,000 in 1944, while in the South Central States distillate oils sold for tractor fuel totaled 1,005,000 barrels in 1943 and 1,081,000 in 1944.

Kerosine.- Sales of kerosine varied very little from a total of 68,000,000 barrels for the years 1940 through 1943, however in 1944 deliveries of 71,214,000 barrels were 5 percent over the 1943 demand of 67,815,000 barrels. More than half of the kerosine (about 56 percent in 1943 and 58 percent in 1944) is sold as range fuel and the proportion for that particular use was expanded by 7 percent from 38,221,000 barrels in 1943 to 41,017,000 in 1944. Approximately 9 percent of the kerosine total is reported as fuel for tractors, the quantity increasing from 5,869,000 barrels in 1943 to 6,143,000 in 1944. Kerosine sales for various other uses - 23,725,000 barrels in 1943 and 24,054,000 in 1944 - made up the balance of the market demand.

More kerosine is sold in New England than in any other area and there deliveries in 1944 of 19,263,000 barrels were 5 percent over the 1943 total of 18,322,000 barrels. Practically all of the kerosine credited to that area is consumed as range-burner fuel and the quantities reported under that classification were 17,775,000 barrels in 1943 and 18,620,000 in 1944. Considerable kerosine is also marketed in the Middle Atlantic States and the demand there was higher by 7 percent in 1944 - 16,211,000 barrels compared with 15,167,000 in 1943. In that section, as in New England, most of this fuel is for range burners - 11,004,000 barrels in 1943 and 12,240,000 in 1944. Dealers in the North Central States reported deliveries of 14,697,000 barrels of kerosine in 1944 compared with 13,775,000 in 1943, while in the South Atlantic States, another important market, the turn-over was 5,713,000 barrels in 1943 and 5,984,000 in 1944.

The use of kerosine for tractor fuel - as in the case of light fuel oil for the same purpose - was mostly limited to the middle west. Kerosine reported as tractor fuel in the North Central States totaled 2,225,000 barrels in 1943 and 2,640,000 in 1944, while in the South Central States, the quantities were 2,619,000 barrels in 1943 and 2,604,000 in 1944.

Sales of distillate fuel oil[1], Diesel fuel, and residual fuel oil[1] in 1944 by States and uses

(Thousands of barrels of 42 gallons)

	Railroads					Vessels (including tankers)				
	Distillate fuel oil	Diesel fuel	Residual fuel oil	Total		Distillate fuel oil	Diesel fuel	Residual fuel oil	Total	
				1944	1943				1944	1943
a...........	4	1,100	26,565	27,669	27,798	43	2,270	21,455	23,768	15,530
....	1	32	8,798	8,831	8,898	1	188	1,164	1,353	1,673
n...........	-	139	1,971	2,110	2,308	-	358	2,703	3,061	3,063
....	-	127	1,690	1,817	2,772	-	-	-	-	-
....	-	16	6,922	6,938	6,268	-	3	-	3	-
....	55	46	363	464	407	-	-	-	-	-
....	83	214	4,330	4,627	3,667	-	-	-	-	-
....	49	70	2,230	2,349	2,017	-	-	-	-	-
....	30	87	532	649	705	-	-	-	-	-
....	44	211	738	993	819	-	-	-	-	-
o...........	10	215	596	821	668	-	-	-	-	-
kota........	3	47	89	139	124	-	-	-	-	-
kota........	-	41	154	195	191	-	-	-	-	-
a...........	49	182	196	427	383	5	1	4	10	18
....	68	402	76	546	346	-	-	-	-	-
....	23	317	382	722	698	5	-	-	5	5
in...........	15	127	53	195	183	2	-	5	7	10
s...........	170	568	502	1,240	1,200	13	106	91	210	255
....	79	125	71	275	212	6	84	314	404	405
h...........	81	115	63	259	241	2	41	53	96	86
....	107	173	66	346	324	5	14	92	111	101
....	28	164	99	291	288	-	85	75	160	128
e...........	68	62	400	530	445	4	93	575	672	447
....	59	218	2,088	2,365	2,767	2	5	231	238	211
....	150	330	7,613	8,093	8,428	-	-	-	-	-
....	319	514	32,883	33,716	32,818	57	1,132	6,998	8,187	7,801
a...........	43	208	6,230	6,481	7,548	1	11	-	12	-
s...........	37	144	2,481	2,662	3,015	15	41	-	56	40
na...........	68	192	4,047	4,307	4,664	13	654	4,045	4,712	3,753
ippi........	6	70	114	190	191	-	8	8	16	20
....	13	217	194	424	283	-	117	1,231	1,348	1,568

Sales of distillate fuel oil1/, Diesel fuel, and residual fuel oil1/ in 1944 by States and uses - Continued (Thousands of barrels of 42 gallons)

	Railroads					Vessels (including tankers)				
	Distillate fuel oil	Diesel fuel	Residual fuel oil	Total 1944	Total 1943	Distillate fuel oil	Diesel fuel	Residual fuel oil	Total 1944	Total 1943
....	10	6	-	16	24	-	7	569	576	534
shire............	3	2	-	5	5	-	-	-	-	-
....	2	4	-	6	6	-	-	-	-	-
setts..........	8	54	1	63	96	40	225	3,552	3,817	1,919
and............	-	13	9	22	14	-	7	42	49	43
ut.............	22	162	96	280	225	5	23	5	33	36
....	73	78	214	365	336	84	1,280	4,260	5,624	7,357
y..............	32	102	393	527	617	45	4,770	29,247	34,062	18,052
nia............	202	127	153	482	368	16	400	3,662	4,078	1,712
....	2	-	3	5	11	4	-	10	14	3
....	87	87	36	210	184	5	263	4,737	5,055	3,470
of Columbia....	37	142	1	180	174	-	2	13	15	20
....	4	169	70	243	178	3	178	4,679	4,860	3,195
inia...........	16	1	9	26	16	5	7	45	57	57
olina..........	42	235	2	279	222	-	8	219	227	37
olina..........	20	284	-	304	210	-	45	275	320	141
....	50	120	11	181	136	-	22	825	847	550
....	30	266	1,001	1,297	1,388	51	307	835	1,193	1,025
. 1944	2,302	8,325	114,535	125,162	124,886	432	12,755	92,069	105,256	73,265
. 1943	2,396	6,212	116,278	124,886	-	597	10,472	62,196	73,265	-

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es some crude oil burned as fuel.

Maine...
New Hamp
Vermont.
Massachu
Rhode Is
Connecti
New York.
New Jerse
Pennsylva
Delaware.
Maryland.
District
Virginia.
West Virg
North Car
South Car
Georgia..
Florida..
Total U.
Total U.
1/ Inclu

Sales of distillate fuel oil[1], Diesel fuel, and residual fuel oil[1] in 1944 by States and uses

(Thousands of barrels of 42 gallons)

	Gas and electric power plants					Smelters, mines, and manufacturing industries				
	Distillate fuel oil	Diesel fuel	Residual fuel oil	Total 1944	Total 1943	Distillate fuel oil	Diesel fuel	Residual fuel oil	Total 1944	Total 1943
California	2	33	3,255	3,290	5,999	81	311	7,970	8,362	8,358
Oregon	-	70	1,916	1,986	1,891	2	113	1,596	1,711	2,036
Washington	-	56	937	993	1,126	5	231	4,338	4,574	4,110
Arizona	-	25	185	210	344	3	33	957	993	1,031
Nevada	-	6	18	24	23	2	45	443	490	493
Idaho	-	6	-	6	3	48	42	127	217	210
Montana	-	8	-	8	5	-	7	11	18	14
Wyoming	2	4	15	21	14	6	5	29	40	8
Utah	-	26	-	26	22	5	13	33	51	91
Colorado	10	89	41	140	115	19	12	585	616	617
New Mexico	30	10	58	98	60	2	8	13	23	26
North Dakota	6	30	12	48	38	1	9	2	12	12
South Dakota	10	92	40	142	133	1	1	14	16	6
Minnesota	18	102	112	232	205	77	123	513	713	593
Nebraska	20	34	125	179	171	26	16	173	215	287
Iowa	47	274	179	500	416	36	29	186	251	163
Wisconsin	61	53	427	541	488	420	158	799	1,377	1,155
Illinois	59	70	148	277	375	781	364	5,810	6,955	6,007
Indiana	50	55	284	389	298	312	182	6,818	7,312	5,524
Michigan	67	102	147	316	433	804	369	3,604	4,777	5,714
Ohio	83	38	57	178	139	1,367	130	7,325	8,822	7,833
Kentucky	41	34	3	78	74	129	157	335	621	682
Tennessee	27	14	108	149	77	245	110	288	643	423
Missouri	28	449	126	603	550	121	217	1,487	1,825	1,367
Kansas	56	166	239	461	629	47	63	360	470	569
Texas	-	-	475	475	479	118	665	159	942	1,359
Oklahoma	3	18	269	290	242	2	11	153	166	230
Arkansas	2	88	26	116	110	52	30	170	252	204
Louisiana	12	38	230	280	262	69	88	229	386	512
Mississippi	11	24	16	51	57	13	47	105	165	141
Alabama	6	42	15	64	64	79	121	713	913	831

Sales of distillate fuel oil1/, Diesel fuel, and residual fuel oil1/ in 1944 by States and uses - Continued (Thousands of barrels of 42 gallons)

	Gas and electric power plants					Smelters, mines, and manufacturing industries				
	Distillate fuel oil	Diesel fuel	Residual fuel oil	Total		Distillate fuel oil	Diesel fuel	Residual fuel oil	Total	
				1944	1943				1944	1943
Maine......	26	-	434	460	258	18	3	873	894	736
New Hampshi	54	21	357	432	148	11	3	129	143	134
Vermont....	33	-	19	52	33	24	10	32	66	52
Massachusett	226	15	1,859	2,100	1,642	363	38	3,983	4,389	4,839
Rhode Island	7	-	1,408	1,415	527	64	3	1,556	1,623	1,624
Connecticut.	200	-	1,548	1,748	987	378	72	1,314	1,764	2,261
New York....	1,060	85	5,522	6,667	6,266	1,532	251	4,774	6,557	7,321
New Jersey..	265	9	3,311	3,585	2,977	1,179	628	5,135	6,942	7,866
Pennsylvania	277	18	2,620	2,915	1,859	2,252	139	12,403	14,794	11,805
Delaware....	4	5	11	20	18	220	32	707	959	1,327
Maryland....	5	9	796	810	872	143	54	4,162	4,359	4,249
District of Columbia.....	-	34	59	93	85	4	4	84	92	124
Virginia....	268	36	157	461	347	88	35	223	346	433
West Virgini	7	1	-	8	7	61	32	739	832	1,291
North Caroli	110	71	-	181	154	39	94	107	240	271
South Caroli	10	51	62	123	103	39	23	481	543	376
Georgia.....	5	40	460	505	452	58	53	1,108	1,219	1,324
Florida.....	46	132	6,389	6,567	5,235	126	297	3,504	3,927	2,705
Total U. S. 1944	3,254	2,583	34,476	40,313	36,812	11,472	5,481	86,664	103,617	99,344
Total U. S. 1943	3,748	2,206	30,858	36,812	-	10,212	4,913	84,219	99,344	-

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1/ Includes some crude oil burned as fuel.

Sales of heating oils in 1944
by States and grades
(Thousands of barrels of 42 gallons)

	Distillates						Residuals				Total all grades	
	Grade #1	Grade #2	Grade #3	Grade #4	1944 Total	1943 Total	Grade #5	Grade #6	1944 Total	1943 Total	1944	1943
California.....	3,314	–	3,011	–	6,325	4,235	3,630	773	4,403	4,074	10,728	8,309
Oregon.......	943	–	1,062	–	2,005	1,764	1,254	300	1,554	1,084	3,559	2,848
Washington.....	1,845	–	2,062	–	3,907	3,509	1,310	367	1,677	1,667	5,584	5,176
Arizona......	255	–	207	–	462	415	63	3	66	61	528	476
Nevada.......	291	–	237	–	528	332	101	–	101	142	629	474
Idaho.........	69	42	44	5	160	143	–	–	–	7	160	150
Montana......	28	51	55	10	144	123	19	43	62	63	206	186
Wyoming......	38	42	20	5	105	87	2	1	3	7	108	94
Utah.........	34	23	64	7	128	146	6	–	6	4	134	150
Colorado......	60	144	92	–	296	251	–	–	–	11	296	262
New Mexico....	–	17	20	–	37	58	–	–	–	5	37	63
North Dakota..	56	173	47	–	276	295	–	–	–	6	276	301
South Dakota..	115	180	65	3	363	404	6	8	14	18	377	422
Minnesota......	775	2,231	840	34	3,880	4,474	312	76	388	530	4,268	5,004
Nebraska......	240	340	821	15	1,416	1,376	142	20	162	216	1,578	1,592
Iowa..........	368	1,081	344	15	1,808	1,898	132	30	162	267	1,970	2,165
Wisconsin......	385	1,688	1,195	35	3,303	3,771	313	139	502	726	3,805	4,497
Illinois.......	1,152	4,573	6,081	293	12,099	12,201	2,033	2,566	4,599	4,949	16,698	17,150
Indiana.......	297	614	403	76	1,390	1,296	326	209	535	643	1,925	1,939
Michigan......	1,138	1,594	1,165	94	3,991	4,208	972	807	1,779	1,543	5,770	5,751
Ohio.........	393	188	685	2	1,268	1,293	142	7	149	195	1,417	1,488
Kentucky......	44	88	94	6	232	204	–	130	130	156	362	360
Tennessee......	17	50	52	–	119	121	–	105	105	71	224	192
Missouri......	377	1,280	1,659	45	3,361	3,688	1,068	344	1,412	1,698	4,773	5,386
Kansas.......	153	169	56	1	379	392	116	53	169	95	548	487
Texas........	22	84	73	16	195	232	25	30	55	104	250	336
Oklahoma......	16	32	14	1	63	73	–	1	1	–	64	73
Arkansas......	–	42	21	–	63	68	–	53	53	–	116	68
Louisiana......	53	118	60	9	240	261	4	42	46	56	286	317
Mississippi.....	–	22	18	–	40	39	–	–	–	–	40	39
Alabama......	46	33	99	–	178	142	7	1	8	6	186	148

Sales of heating oils in 1944
by States and Grades - Continued
(Thousands of barrels of 42 gallons)

Maine......
New Hampshi
Vermont....
Massachuset
Rhode Islan
~~Connecticut.~~
New York....
New Jersey..
Pennsylvania
Delaware....
Maryland....
Dist. of Col
Virginia....
West Virgini
North Caroli
South Caroli
Georgia
~~Florida~~
Total U. S.
Total U. S.

	Distillates						Residuals				Total all grades	
	Grade #1	Grade #2	Grade #3	Grade #4	1944 Total	1943 Total	Grade #5	Grade #6	1944 Total	1943 Total	1944	1943
......	34	789	-	-	823	866	-	141	141	186	964	1,052
e......	6	621	10	11	648	775	2	212	214	248	862	1,023
......	-	447	9	-	456	443	11	45	56	86	512	529
s......	222	7,688	244	92	8,246	8,572	360	2,890	3,250	3,503	11,496	12,075
......	39	1,863	284	33	2,219	2,181	31	544	575	695	2,794	2,876
......	80	3,723	478	59	4,340	4,335	372	694	1,066	1,158	5,406	5,493
......	796	19,634	1,678	531	22,639	23,741	765	7,799	8,564	8,945	31,203	32,686
......	151	9,229	923	529	10,832	10,992	830	2,602	3,432	3,883	14,264	14,875
......	110	4,218	1,284	180	5,792	6,074	1,189	1,949	3,138	3,515	8,930	9,589
......	20	235	106	6	367	339	10	80	90	137	457	476
......	30	2,313	128	91	2,562	2,552	122	576	698	661	3,260	3,213
mbia.	31	1,382	6	-	1,419	1,556	10	568	578	554	1,997	2,110
......	69	991	7	-	1,067	1,172	-	152	152	210	1,219	1,382
......	-	25	53	-	78	82	-	-	-	-	78	82
a....	46	165	291	-	502	439	-	20	20	25	522	464
a....	25	149	9	-	183	174	5	-	5	5	188	179
	16	150	108	3	277	269	9	35	44	55	321	324
	81	321	98	18	518	520	12	298	310	400	828	920
1944	14,280	68,842	26,382	2,225	111,729	112,581	15,711	24,763	40,474	42,670	152,203	155,251
1943	13,239	70,903	25,533	2,906	112,581	-	16,769	25,901	42,670	-	155,251	-

Sales of distillate fuel oil[1]/, Diesel fuel and residual fuel oil[1]/ in 1944 by States and uses

(Thousands of barrels of 42 gallons)

	No. 1 Fuel oil sold as range oil		U. S. Navy, Army, and Coast Guard					
	Total		Distillate fuel oil	Diesel fuel	Navy grade	Residual fuel oil	Total	
	1944	1943					1944	1943
California...........	179	18	168	4,259	37,425	4,122	45,974	58,643
Oregon...............	-	-	7	101	263	107	478	791
Washington...........	-	-	77	456	198	731	1,462	1,937
Arizona..............	-	7	23	30	-	2	55	72
Nevada...............	-	-	2	2	-	10	14	67
Idaho................	27	3	2	18	-	14	34	21
Montana..............	20	51	-	300	823	4	1,127	11
Wyoming..............	7	22	27	334	2,056	103	2,520	-
Utah.................	13	9	13	92	-	5	110	26
Colorado.............	123	47	18	-	-	-	18	3
New Mexico...........	5	9	-	66	-	-	66	2
North Dakota.........	62	47	-	-	-	-	-	-
South Dakota.........	32	26	-	-	-	-	-	-
Minnesota............	501	438	2	-	-	-	2	-
Nebraska.............	103	52	8	-	-	1	9	1
Iowa.................	662	600	-	-	-	-	-	104
Wisconsin............	587	564	3	3	-	-	6	9
Illinois.............	1,336	1,419	5	90	-	128	223	264
Indiana..............	322	296	30	47	-	23	100	189
Michigan.............	736	673	1	23	-	47	71	21
Ohio.................	82	81	15	3	26	97	141	253
Kentucky.............	1	1	6	7	-	6	19	47
Tennessee............	46	17	42	19	-	86	147	197
Missouri.............	166	127	-	-	-	92	92	100
Kansas...............	44	47	44	26	76	59	205	81
Texas................	9	14	3,750	15,245	17,890	9,843	46,728	40,799
Oklahoma.............	10	-	3	97	-	36	136	23
Arkansas.............	89	92	4	85	-	295	384	41
Louisiana............	1	3	19	2,977	2,126	1,473	6,595	5,437
Mississippi..........	16	21	2	9	-	2	13	10
Alabama..............	48	46	20	52	105	108	285	246

Sales of distillate fuel oil[1], Diesel fuel and residual fuel oil[1] in 1944
by States and uses - Continued
(Thousands of barrels of 42 gallons)

	No. 1 Fuel Oil sold as range fuel oil		U. S. Navy, Army and Coast Guard					
	Total		Distillate fuel oil	Diesel fuel	Navy grade	Residual fuel oil	Total	
	1944	1943					1944	1943
Mai e.	75	44	-	4	-	19	23	105
New Hampshire	23	25	14	35	-	-	49	27
Ver ont	12	5	-	27	-	-	27	-
Mass achusetts	416	331	17	776	3,223	210	4,226	1,178
Rhod e Island	75	64	22	19	-	96	137	87
Con ecticut	388	174	4	180	236	50	470	310
New York	125	208	15	72	300	133	520	546
New Jersey	71	66	3,711	3,466	8,878	1,830	17,885	5,963
Penn ylvania	29	33	1,591	1,701	2,925	785	7,002	3,435
Dela are	1	17	4	160	-	-	164	104
Mary and	7	6	29	452	223	553	1,257	1,090
Dist rict of C umbia	2	1	40	85	2	2	129	314
Virg inia	58	57	24	1,437	1,118	140	2,719	1,632
Wes Virginia	1	-	3	3	-	104	110	53
Nor h Carolina	22	41	7	27	2	9	45	324
Sou h Carolina	29	22	9	87	9	97	202	156
Geo gia	33	22	12	18	-	228	258	248
Flo ida	25	30	86	110	762	1,031	1,989	1,129
Tot U.S. 1944	6,619	5,876	9,879	33,000	78,665	22,681	144,226	126,096
Tot U.S. 1943	5,876	-	15,032	18,351	73,369	19,344	126,096	-

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[1] Includes some crude oil burned as fuel.

Sales of distillate fuel oil[1], Diesel fuel and residual fuel oil[1] in 1944 by States and uses (Thousands of barrels of 42 gallons)

	Oil company fuel						Miscellaneous uses					
	Distillate fuel oil	Diesel fuel	Residual fuel oil	Crude oil	Total 1944	Total 1943	Distillate fuel oil	Diesel fuel	Tractor fuel	Residual fuel oil	Total 1944	Total 1943
Californi	9	81	8,701	1,071	9,862	7,009	601	2,566	-	1,160	4,327	4,736
Oregon	2	-	121	-	123	102	96	309	-	119	524	569
Washingto	1	11	214	-	226	192	241	451	-	127	819	733
Arizona	-	-	-	-	-	-	39	136	-	5	180	189
Nevada	-	-	-	-	-	-	12	99	-	13	124	197
Idaho	-	-	40	-	40	50	13	126	26	36	201	192
Montana	-	-	229	-	229	197	28	106	79	1	214	205
Wyoming	1	4	880	4	889	621	25	62	43	7	137	104
Utah	-	1	603	-	604	190	17	112	34	23	186	181
Colorado	-	-	121	-	121	79	80	85	28	4	197	203
New Mexic	6	4	76	9	95	94	88	41	-	3	132	76
North Dak	-	-	-	-	-	-	7	24	17	1	49	121
South Da	-	-	-	-	-	1	47	8	23	4	82	81
Minnesot	6	-	5	-	11	9	196	30	118	1	345	387
Nebraska	2	-	7	-	9	9	84	22	360	12	478	200
Iowa	5	1	-	-	6	1	225	22	74	4	325	592
Wisconsi	8	-	10	-	18	21	135	34	77	10	256	312
Illinois	30	33	3,403	134	3,600	3,319	103	194	35	725	1,057	882
Indiana	5	-	3,639	70	3,714	2,970	180	40	20	22	262	191
Michigan	22	6	802	-	830	833	33	90	52	11	186	304
Ohio	22	5	2,961	82	3,070	2,914	25	114	135	42	316	434
Kentucky	-	4	323	1	328	429	26	71	82	50	229	264
Tennesse	2	-	6	-	8	10	11	204	102	12	329	369
Missouri	2	-	343	214	559	609	140	113	19	37	309	427
Kansas	18	8	1,851	372	2,249	2,139	233	42	9	15	299	258
Texas	36	54	9,851	985	10,926	9,038	981	447	29	356	1,813	1,576
Oklahoma	2	2	1,820	242	2,066	1,960	122	63	3	36	224	301
Arkansas	-	-	59	18	77	124	39	160	303	8	510	627
Louisian	3	13	946	501	1,463	1,214	88	207	279	360	934	1,034
Mississi	2	-	5	18	25	6	57	135	187	350	729	561
Alabama	1	-	11	1	13	11	36	193	252	81	562	555

Sales of distillate fuel oil 1/, Diesel fuel and residual fuel oil 1/ in 1944
by States and uses - Continued
(Thousands of barrels of 42 gallons)

	Oil Company fuel						Miscellaneous uses					
	Distillate fuel oil	Diesel fuel	Residual fuel oil	Crude oil	Total 1944	Total 1943	Distillate fuel oil	Diesel fuel	Tractor fuel	Residual fuel oil	Total 1944	Total 1943
Maine	3	-	23	-	26	23	1	36	-	2	39	40
New Hampshire	1	-	-	-	1	1	1	4	-	1	6	8
Vermont	1	-	-	-	1	1	1	5	-	-	6	7
Massachusetts	8	-	490	7	505	571	2	26	-	15	43	87
Rhode Island	5	-	303	13	321	246	-	6	-	6	12	64
Connecticut	1	-	24	-	25	27	4	10	-	8	22	53
New York	108	1	1,831	-	1,940	1,547	66	299	2	37	404	398
New Jersey	99	2	3,872	-	3,973	4,363	51	273	-	45	369	349
Pennsylvania	185	6	6,835	-	7,026	5,633	53	133	4	8	198	306
Delaware	-	-	58	-	58	20	2	2	-	-	4	8
Maryland	110	-	784	-	894	1,112	65	148	-	248	461	453
District of Columbia	2	1	4	-	7	6	4	10	-	16	30	25
Virginia	3	-	68	-	71	68	129	36	-	36	201	258
West Virginia	-	1	82	-	83	53	4	94	-	1	99	76
North Carolina	1	-	4	-	5	4	24	70	-	21	115	210
South Carolina	-	-	83	-	83	56	18	70	56	17	161	251
Georgia	1	-	86	-	87	72	101	82	87	45	315	274
Florida	29	1	46	1	77	53	51	237	93	343	724	924
Total U.S. 1944	742	239	51,620	3,743	56,344	48,007	4,585	7,847	2,628	4,484	19,544	20,652
Total U.S. 1943	668	196	43,972	3,151	48,007	-	4,889	6,777	2,566	6,420	20,652	-

1/ Includes some crude oil burned as fuel.

Sales of distillate fuel oil[1], Diesel fuel, and residual fuel oil[1] in 1943-1944 by States

(Thousands of barrels of 42 gallons)

Distillates						Residuals						Total all Grades	
stillate fuel oil		Diesel fuel		Total distillates		Residual fuel oil		Crude oil		Total residuals			
1944	1943	1944	1943	1944	1943	1944	1943	1944	1943	1944	1943	1944	1943
7,412	6,667	10,620	10,885	18,032	17,552	115,056	117,809	1,071	1,039	116,127	118,848	134,159	136,400
2,114	1,993	813	857	2,927	2,850	15,638	15,958	-	-	15,638	15,958	18,565	18,808
4,231	4,071	1,702	1,583	5,933	5,654	12,896	12,991	-	-	12,896	12,991	18,829	18,645
527	495	351	279	878	774	2,905	4,117	-	-	2,905	4,117	3,783	4,891
544	373	171	209	715	582	7,507	6,940	-	-	7,507	6,940	8,222	7,522
331	255	238	178	569	433	580	603	-	-	580	603	1,149	1,036
354	363	635	169	989	532	5,460	3,803	-	1	5,460	3,804	6,449	4,336
265	214	479	94	744	308	5,323	2,401	4	171	5,327	2,572	6,071	2,880
240	230	331	257	571	487	1,202	887	-	-	1,202	887	1,773	1,374
618	477	397	264	1,015	741	1,489	1,404	-	-	1,489	1,404	2,504	2,145
178	140	344	263	522	403	746	586	9	9	755	595	1,277	998
372	447	110	103	482	550	104	93	-	-	104	93	586	643
476	509	142	139	618	648	226	212	-	-	226	212	844	860
4,852	5,385	438	482	5,290	5,867	1,219	1,170	-	-	1,219	1,170	6,509	7,037
2,087	1,731	474	279	2,561	2,010	556	648	-	-	556	648	3,117	2,658
2,885	3,196	643	652	3,528	3,758	913	986	-	-	913	986	4,441	4,744
4,611	5,097	375	475	4,986	5,572	1,806	1,667	-	-	1,806	1,667	6,792	7,239
14,631	15,048	1,425	1,129	16,056	16,177	15,406	14,606	134	88	15,540	14,694	31,596	30,871
2,394	2,292	533	512	2,927	2,804	11,706	9,152	70	68	11,776	9,220	14,703	12,024
5,789	6,105	746	694	6,535	6,799	6,506	7,166	-	91	6,506	7,257	13,041	14,056
3,109	3,025	477	518	3,586	3,543	10,815	10,008	82	16	10,897	10,024	14,483	13,567
545	604	522	447	1,067	1,051	1,021	1,211	1	11	1,022	1,222	2,089	2,273
666	555	502	540	1,168	1,095	1,580	1,082	-	-	1,580	1,082	2,748	2,177
3,898	4,217	1,002	597	4,900	4,814	5,816	6,493	214	237	6,030	6,730	10,930	11,544
980	931	635	608	1,615	1,539	10,382	10,977	372	122	10,754	11,099	12,369	12,638
5,494	10,578	18,057	8,017	23,551	18,595	78,510	74,997	985	628	79,495	75,625	103,046	94,220
252	373	410	293	662	666	8,545	9,472	242	239	8,787	9,711	9,449	10,377
604	784	548	308	1,152	1,092	3,092	3,212	18	17	3,110	3,229	4,262	4,321
792	1,462	4,169	2,946	4,961	4,408	13,502	12,407	501	381	14,003	12,788	18,964	17,196
334	329	293	252	627	581	600	462	18	3	618	465	1,245	1,046
633	591	742	695	1,375	1,286	2,467	2,463	1	3	2,468	2,466	3,843	3,752

California...
Oregon.......
Washington ..
Arizona......
Nevada.......
Idaho........
Montana......
Wyoming......
Utah.........
Colorado.....
New Mexico...
North Dakota.
South Dakota.
Minnesota....
Nebraska.....
Iowa.........
Wisconsin....
Illinois.....
Indiana......
Michigan.....
Ohio.........
Kentucky.....
Tennessee....
Missouri.....
Kansas.......
Texas........
Oklahoma.....
Arkansas.....
Louisiana....

Sales of distillate fuel oil1/, Diesel fuel, and residual fuel oil1/ in 1943-1944 by States - Continued
(Thousands of barrels of 42 gallons)

	Distillates						Residuals						Total all grades	
	Distillate fuel oil		Diesel fuel		Total distillates		Residual fuel oil		Crude oil		Total residuals			
	1944	1943	1944	1943	1944	1943	1944	1943	1944	1943	1944	1943	1944	1943
Maine......	956	1,001	56	61	1,012	1,062	2,061	1,754	-	-	2,061	1,754	3,073	2,816
New Hampshi	755	890	65	48	820	938	701	433	-	-	701	433	1,521	1,371
Vermont....	529	501	46	22	575	523	107	110	-	-	107	110	682	633
Massachuset	9,326	9,700	1,134	490	10,460	10,190	16,588	12,543	7	5	16,595	12,548	27,055	22,738
Rhode Islan	2,392	2,332	48	45	2,440	2,377	3,995	3,157	13	11	4,008	3,168	6,448	5,545
Connecticut	5,342	5,080	447	372	5,789	5,452	4,347	4,114	-	-	4,347	4,114	10,136	9,566
New York...	25,704	27,130	2,066	2,328	27,770	29,458	25,635	27,207	-	-	25,635	27,207	53,405	56,665
New Jersey.	16,285	14,187	9,250	4,830	25,535	19,017	56,143	36,111	-	-	56,143	36,111	81,678	55,128
Pennsylvani	10,401	9,116	2,524	1,109	12,925	10,225	32,529	24,513	-	2	32,529	24,515	45,454	54,740
Delaware...	604	600	199	50	803	650	879	1,334	-	-	879	1,334	1,682	1,984
Maryland...	3,013	3,168	1,013	627	4,026	3,795	12,287	10,854	-	-	12,287	10,854	16,313	14,649
District of Columbia	1,508	1,644	278	263	1,786	1,907	759	952	-	-	759	952	2,545	2,859
Virginia...	1,644	1,539	1,891	1,427	3,535	2,966	6,643	4,584	-	-	6,643	4,584	10,178	7,550
West Virgin	175	276	139	115	314	391	980	1,244	-	-	980	1,244	1,294	1,635
North Caroli	747	792	505	435	1,252	1,227	384	500	-	-	384	500	1,636	1,727
South Caroli	364	368	560	456	924	824	1,029	670	-	-	1,029	670	1,953	1,494
Georgia....	624	566	335	334	959	900	2,807	2,501	-	1	2,807	2,502	3,766	3,402
Florida....	1,055	1,158	1,350	1,481	2,405	2,639	14,221	10,762	1	8	14,222	10,770	16,627	13,409
Total U. S	153,642	158,585	70,230	49,127	223,872	207,712	525,669	479,326	3,743	3,151	529,412	482,477	753,284	690,189

1/ Includes some crude oil burned as fuel.

Sales of kerosine by States and uses, 1943-1944
(Thousands of barrels of 42 gallons)

	Sold as range oil		Tractor fuel		All other uses		Total	
	1944	1943	1944	1943	1944	1943	1944	1943
California	278	61	22	21	1,584	2,136	1,884	2,218
Oregon	29	15	2	-	138	145	169	160
Washington	29	14	1	-	173	215	203	229
Arizona	22	7	-	-	159	226	181	233
Nevada	3	2	2	-	14	52	17	54
Idaho	6	3	13	10	32	33	51	46
Montana	29	36	49	58	64	54	142	148
Wyoming	11	13	24	20	25	29	60	62
Utah	7	4	5	6	15	15	27	25
Colorado	28	34	57	49	97	81	182	164
New Mexico	73	60	38	43	66	59	177	162
North Dakota	71	73	164	145	89	77	324	295
South Dakota	77	80	150	154	85	74	312	308
Minnesota	357	312	144	192	467	404	968	908
Nebraska	226	260	124	139	230	200	580	599
Iowa	302	278	731	179	605	593	1,638	1,050
Wisconsin	277	292	135	179	449	482	861	953
Illinois	1,803	1,862	352	314	1,673	1,487	3,828	3,663
Indiana	260	257	210	245	1,070	1,007	1,540	1,509
Michigan	365	352	188	222	861	829	1,414	1,403
Ohio	480	553	171	238	623	600	1,274	1,391
Kentucky	121	131	103	101	530	489	754	721
Tennessee	285	163	168	117	751	695	1,204	975
Missouri	561	573	170	173	782	690	1,513	1,436
Kansas	140	176	326	314	340	345	806	835
Texas	922	851	1,078	1,183	2,521	2,343	4,521	4,377
Oklahoma	224	162	301	242	662	666	1,187	1,070
Arkansas	330	162	248	210	648	586	1,226	958
Louisiana	166	168	202	230	835	824	1,203	1,222
Mississippi	82	77	160	164	467	404	709	645
Alabama	166	154	119	103	516	537	801	794
Maine	1,360	1,311	4	4	43	34	1,407	1,349
New Hampshire	785	810	1	1	9	10	795	821
Vermont	401	447	1	2	52	56	454	505
Massachusetts	10,577	9,920	-	2	399	312	10,976	10,234
Rhode Island	1,967	1,853	3	2	53	57	2,023	1,912
Connecticut	3,530	3,434	-	-	78	67	3,608	3,501
New York	6,888	6,286	82	86	1,007	1,059	7,977	7,431
New Jersey	3,433	3,019	75	117	991	949	4,499	4,085
Pennsylvania	1,026	858	108	138	1,114	1,256	2,248	2,252
Delaware	103	85	-	1	59	56	162	142
Maryland	683	660	19	24	443	402	1,145	1,086
District of Columbia	107	96	1	9	72	66	180	171
Virginia	273	224	21	22	686	619	980	865
West Virginia	36	47	10	16	123	116	169	179
North Carolina	739	768	85	91	659	651	1,483	1,510
South Carolina	275	230	71	64	514	460	860	754
Georgia	394	299	92	102	501	525	987	926
Florida	710	689	115	137	680	653	1,505	1,479
Total U. S.	41,017	38,221	6,143	5,869	24,054	23,725	71,214	67,815

Sales of range oil by States, 1943-1944
(Thousands of barrels of 42 gallons)

	Kerosine		Grade No. 1 fuel oil		Total	
	1944	1943	1944	1943	1944	1943
California	278	61	179	18	457	79
Oregon	29	15	-	-	29	15
Washington	29	14	-	-	29	14
Arizona	22	7	-	7	22	14
Nevada	3	2	-	-	3	2
Idaho	6	3	27	3	33	6
Montana	29	36	20	51	49	87
Wyoming	11	13	7	22	18	35
Utah	7	4	13	9	20	13
Colorado	28	34	123	47	151	81
New Mexico	73	60	5	9	78	69
North Dakota	71	73	62	47	133	120
South Dakota	77	80	32	26	109	106
Minnesota	357	312	501	438	858	750
Nebraska	226	260	103	52	329	312
Iowa	302	278	662	600	964	878
Wisconsin	277	292	587	564	864	856
Illinois	1,803	1,862	1,336	1,419	3,139	3,281
Indiana	260	257	322	296	582	553
Michigan	365	352	736	673	1,101	1,025
Ohio	480	553	82	81	562	634
Kentucky	121	131	1	1	122	132
Tennessee	285	163	46	17	331	180
Missouri	561	573	166	127	727	700
Kansas	140	176	44	47	184	223
Texas	922	851	9	14	931	865
Oklahoma	224	162	10	-	234	162
Arkansas	330	162	89	92	419	254
Louisiana	166	168	1	3	167	171
Mississippi	82	77	16	21	98	98
Alabama	166	154	48	46	214	200
Maine	1,360	1,311	75	44	1,435	1,355
New Hampshire	785	810	23	25	808	835
Vermont	401	447	12	5	413	452
Massachusetts	10,577	9,920	416	331	10,993	10,251
Rhode Island	1,967	1,853	75	64	2,042	1,917
Connecticut	3,530	3,434	388	174	3,918	3,608
New York	6,888	6,286	125	208	7,013	6,494
New Jersey	3,433	3,019	71	66	3,504	3.085
Pennsylvania	1,026	858	29	33	1,055	891
Delaware	103	85	1	17	104	102
Maryland	683	660	7	6	690	666
District of Columbia	107	96	2	1	109	97
Virginia	273	224	58	57	331	281
West Virginia	36	47	1	-	37	47
North Carolina	739	768	22	41	761	809
South Carolina	275	230	29	22	304	252
Georgia	394	299	33	22	427	321
Florida	710	689	25	30	735	719
Total U. S.	41,017	38,221	6,619	5,876	47,636	44,097

Regional distribution of distillate and residual fuel-oil sales, 1940-1944
(Thousands of barrels of 42 gallons)

Region	1940	1941	1942	1943	1944	Percent of Increase in 1944 compared with 1943
Pacific Coast...	99,404	110,679	142,321	186,266	183,558	- 1.5
Rocky Mountain..	6,984	9,099	11,155	12,769	19,223	50.5
North Central...	81,130	92,242	98,241	98,149	100,949	2.9
South Central...	87,299	105,228	114,546	155,094	164,108	5.8
New England.....	52,367	58,306	50,080	42,669	48,915	14.6
Middle Atlantic.	150,356	154,861	151,801	166,025	201,077	21.1
South Atlantic..	21,218	23,914	24,002	29,217	35,454	21.3
Total U. S.	498,758	554,329	592,146	690,189	753,284	9.1

Regional percentages of distillate and residual fuel oil sales, 1940-1944

Region	1940	1941	1942	1943	1944
Pacific Coast....................	19.9	20.0	24.0	27.0	24.4
Rocky Mountain...................	1.4	1.6	1.9	1.8	2.5
North Central....................	16.3	16.6	16.6	14.2	13.4
South Central....................	17.5	19.0	19.3	22.5	21.8
New England......................	10.5	10.5	8.5	6.2	6.5
Middle Atlantic..................	30.1	28.0	25.6	24.1	26.7
South Atlantic...................	4.3	4.3	4.1	4.2	4.7
Total U. S.	100.0	100.0	100.0	100.0	100.0

Regional distribution of distillate fuel-oil sales, 1940-1944
(Thousands of barrels of 42 gallons)

Region	1940	1941	1942	1943	1944	Percent of increase in 1944 compared with 1943
Pacific Coast..	17,959	17,921	21,466	27,412	28,485	3.9
Rocky Mountain.	1,623	1,990	2,635	2,904	4,410	51.9
North Central..	43,222	47,941	53,082	49,874	48,804	- 2.1
South Central..	12,328	14,448	18,667	32,981	38,843	17.8
New England....	23,808	24,928	21,940	20,542	21,096	2.7
Middle Atlantic.	56,392	59,522	61,294	65,052	72,845	12.0
South Atlantic..	5,320	6,589	7,729	8,947	9,389	4.9
Total U. S.	160,652	173,339	186,813	207,712	223,872	7.8

Regional percentages of distillate fuel-oil sales, 1940-1944

Region	1940	1941	1942	1943	1944
Pacific Coast..........................	11.2	10.3	11.5	13.2	12.7
Rocky Mountain..........................	1.0	1.2	1.4	1.4	2.0
North Central..........................	26.9	27.7	28.4	24.0	21.8
South Central..........................	7.7	8.3	10.0	15.9	17.4
New England............................	14.8	14.4	11.8	10.4	9.4
Middle Atlantic........................	35.1	34.3	32.8	30.8	32.5
South Atlantic.........................	3.3	3.8	4.1	4.3	4.2
Total United States	100.0	100.0	100.0	100.0	100.0

Regional distribution of residual fuel-oil sales, 1940-1944
(Thousands of barrels of 42 gallons)

Region	1940	1941	1942	1943	1944	Percentage of increase in 1944 compared with 1943
Pacific Coast....	81,445	92,758	120,855	158,854	155,073	- 2.4
Rocky Mountain..	5,361	7,109	8,520	9,865	14,813	50.2
North Central....	37,908	44,301	45,159	48,275	52,145	8.0
South Central....	74,971	90,780	95,879	122,113	125,265	2.6
New England.....	28,559	33,378	28,140	22,127	27,819	25.7
Middle Atlantic.	93,964	95,339	90,507	100,973	128,232	27.0
South Atlantic..	15,898	17,325	16,273	20,270	26,065	28.6
Total U. S..	338,106	380,990	405,333	482,477	529,412	9.7

Regional percentages of residual fuel-oil sales, 1940-1944

Region	1940	1941	1942	1943	1944
Pacific Coast..........................	24.1	24.3	29.8	32.9	29.3
Rocky Mountain..........................	1.6	1.9	2.1	2.1	2.8
North Central..........................	11.2	11.6	11.1	10.0	9.8
South Central..........................	22.2	23.8	23.7	25.3	23.7
New England............................	8.4	8.8	7.0	4.6	5.3
Middle Atlantic........................	27.8	25.0	22.3	20.9	24.2
South Atlantic.........................	4.7	4.6	4.0	4.2	4.9
Total United States................	100.0	100.0	100.0	100.0	100.0

Regional distribution of kerosine sales, 1940-1944
(Thousands of barrels of 42 gallons)

Region	1940	1941	1942	1943	1944	Percentage of increase in 1944 compared with 1943
Pacific Coast..	1,402	1,788	2,149	2,894	2,454	- 15.2
Rocky Mountain.	542	533	538	607	639	5.3
North Central..	12,539	12,373	13,014	13,775	14,697	6.7
South Central..	7,783	8,180	9,254	11,337	11,966	5.5
New England....	23,221	23,295	21,207	18,322	19,263	5.1
Middle Atlantic	17,217	17,430	16,803	15,167	16,211	6.9
South Atlantic.	4,958	5,397	5,725	5,713	5,984	4.7
Total U. S.	67,662	68,996	68,690	67,815	71,214	5.0

Regional percentages of kerosine sales, 1940-1944

Region	1940	1941	1942	1943	1944
Pacific Coast................	2.1	2.6	3.1	4.3	3.4
Rocky Mountain...............	0.8	0.8	0.8	0.9	0.9
North Central................	18.5	17.9	18.9	20.3	20.6
South Central................	11.5	11.8	13.5	16.7	16.8
New England..................	34.3	33.8	30.9	27.0	27.1
Middle Atlantic..............	25.5	25.3	24.5	22.4	22.8
South Atlantic...............	7.3	7.8	8.3	8.4	8.4
Total United States......	100.0	100.0	100.0	100.0	100.0

Regional distribution of range oil sales, 1940-1944
(Thousands of barrels of 42 gallons)

Region	1940	1941	1942	1943	1944	Percentage of increase in 1944 compared with 1943
Pacific Coast..	166	146	155	124	540	335.5
Rocky Mountain.	170	191	196	291	349	19.9
North Central..	5,010	6,085	7,325	8,827	9,094	3.0
South Central..	1,576	1,613	1,766	2,673	2,974	11.3
New England....	23,121	23,017	20,879	18,418	19,609	6.5
Middle Atlantic	12,817	12,984	12,347	11,335	12,475	10.1
South Atlantic.	1,832	2,074	2,255	2,429	2,595	6.8
Total U. S.	44,692	46,110	44,923	44,097	47,636	8.0

Regional percentages of range oil sales, 1940-1944

Region	1940	1941	1942	1943	1944
Pacific Coast..............	0.4	0.3	0.4	0.3	1.1
Rocky Mountain.............	0.4	0.4	0.4	0.6	0.7
North Central..............	11.2	13.2	16.3	20.0	19.1
South Central..............	3.5	3.5	3.9	6.1	6.2
New England................	51.7	49.9	[illegible]	[illegible]	[illegible]
Middle Atlantic............	28.7	28.2	27.5	25.7	26.
South Atlantic.............	4.1	4.5	5.0	5.5	5.5
Total United States.....	100.0	100.0	100.0	100.0	100.0

Sales of distillate residual fuel oil in P. A. W.1/ districts by uses, 1943-1944
(Thousands of barrels of 42 gallons)

	District 1		District 2		District 3		District 4		District 5		Total	
	1944	1943	1944	1943	1944	1943	1944	1943	1944	1943	1944	1943
Railroads....................	4,491	4,210	22,104	23,378	42,120	41,639	9,082	7,615	47,365	48,044	125,162	124,886
Vessels (including tankers)..	60,827	38,151	1,925	1,666	14,319	13,182	-	-	28,185	20,266	105,256	73,265
Gas and electric power plants	28,142	21,970	4,383	4,268	1,084	1,032	201	159	6,503	9,383	40,313	36,812
Smelters, mines, and manufacturing industries...	49,689	48,738	34,175	30,565	2,681	3,073	942	940	16,130	16,028	103,617	99,344
Heating oils.................	85,301	89,348	44,055	46,807	915	971	904	842	21,028	17,283	152,203	155,251
No. 1 fuel oil sold as range oil.................	1,392	1,146	4,690	4,388	168	185	190	132	179	25	6,619	5,876
U. S. Navy, Army, and Coast Guard................	37,212	16,701	1,151	1,889	54,071	46,535	3,809	61	47,983	61,510	144,226	126,096
Oil Company fuel.............	15,183	13,856	16,468	15,224	12,599	10,487	1,883	1,137	10,211	7,303	56,344	48,007
Miscellaneous uses...........	3,209	3,791	4,746	5,123	4,680	4,429	935	885	5,974	6,424	19,544	20,652
District totals....	285,446	237,911	133,697	132,708	132,637	121,533	17,946	11,771	183,558	186,266	753,284	690,189

1/ Petroleum Administration for War.

Sales of distillate fuel oil in P. A. W. 1/ districts by uses, 1943-1944
(Thousands of barrels of 42 gallons)

	District 1		District 2		District 3		District 4		District 5		Total	
	1944	1943	1944	1943	1944	1943	1944	1943	1944	1943	1944	1943
Railroads....................	2,492	2,097	4,022	3,355	1,805	1,637	889	559	1,419	960	10,627	8,608
Vessels (including tankers)..	7,802	6,392	485	503	2,037	1,964	-	-	2,863	2,210	13,187	11,069
Gas and electric power plants	3,130	3,397	2,107	2,068	263	249	145	71	192	169	5,837	5,954
Smelters, mines, and manufacturing industries...	8,370	6,889	6,308	6,155	1,292	951	157	142	826	988	16,953	15,125
Heating oils.................	62,968	65,082	33,948	35,694	753	800	833	750	13,227	10,255	111,729	112,581
No. 1 fuel oil sold as range oil.................	1,392	1,146	4,690	4,388	168	185	190	132	179	25	6,619	5,876
U. S. Navy, Army, and Coast Guard................	14,247	6,293	474	439	22,229	18,019	804	55	5,125	8,577	42,879	33,383
Oil company fuel.............	569	431	183	216	119	92	6	25	104	120	981	884
Miscellaneous uses...........	2,360	2,814	3,764	4,075	3,522	2,468	864	767	4,550	4,108	15,060	14,232
District totals....	103,330	94,541	55,981	56,893	32,188	26,365	3,388	2,501	28,465	27,412	223,872	207,712

1/ Petroleum Administration for War.

Sales of residual fuel oil in P. A. W.1/ districts by uses, 1943-1944
(Thousands of barrels of 42 gallons)

	District 1		District 2		District 3		District 4		District 5		Total	
	1944	1943	1944	1943	1944	1943	1944	1943	1944	1943	1944	1943
Railroads	1,999	2,113	18,082	20,023	40,315	40,082	8,193	7,056	45,946	47,084	114,535	116,278
Vessels (including tankers)..	53,025	31,759	1,440	1,163	12,282	11,218	-	-	25,322	18,056	92,069	62,196
Gas and lectric power plants	25,012	18,573	2,276	2,200	821	783	56	88	6,311	9,214	34,476	30,858
Smelters, mines and manufa turing industries...	41,319	41,849	27,867	24,410	1,389	2,122	785	798	15,304	15,040	86,664	84,219
Heating ils................	22,333	24,266	10,107	11,113	162	171	71	92	7,801	7,028	40,474	42,670
U. S. Na y, Army, and Coast uard...............	22,965	10,408	677	850	31,842	28,516	3,005	6	42,858	52,933	101,347	92,713
Oil comp ny fuel.............	14,614	13,425	16,285	15,008	12,480	10,395	1,877	1,112	10,107	7,183	55,363	47,123
Miscellan eous uses...........	849	977	982	1,048	1,158	1,961	71	118	1,424	2,316	4,484	6,420
istrict totals......	182,116	143,370	77,716	75,815	100,449	95,168	14,058	9,270	155,073	153,854	529,412	482,477

1/ Petr leum Administration for War.

Sales of kerosine and range oil by P. A. W.1/ districts, 1943-1944
(Thousands of barrels of 42 gallons)

	District 1		District 2		District 3		District 4		District 5		Total	
	1944	1943	1944	1943	1944	1943	1944	1943	1944	1943	1944	1943
Kerosine	41,458	39,202	18,203	17,116	8,637	8,158	462	445	2,454	2,894	71,214	67,815
Range oi	34,679	32,182	10,239	9,912	1,907	1,657	271	222	540	124	47,636	44,097

ote: District 1 - Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia and Florida.

District 2 - North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Wisconsin, Illinois, Indiana, Michigan, Ohio, Kentucky, Tennessee, Missouri, Kansas and Oklahoma.

District 3 - New Mexico, Texas, Arkansas, Louisiana, Mississippi and Alabama.

District 4 - Idaho, Montana, Wyoming, Utah and Colorado.

District 5 - California, Oregon, Washington, Arizona and Nevada.

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A cknowledgment: The data for California, Oregon, Washington, Arizona and Nevada appearing in this report were compiled by E. T. Kn sen, United States Bureau of Mines, Los Angeles, Calif.

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SUPPLEMENTARY TABLES

Sales of distillate fuel oil, Diesel fuel and residual fuel oil in 1941-1943 to the U. S. Navy, Army and Coast Guard

(Thousands of barrels of 42 gallons)

	Distillate fuel oil			Diesel fuel			Navy grade			Residual fuel oil			Total		
	1941	1942	1943	1941	1942	1943	1941	1942	1943	1941	1942	1943	1941	1942	1943
California	118	849	890	937	3,706	6,313	11,405	20,092	45,848	77	8,857	5,592	12,537	33,504	58,643
Oregon	-	30	59	11	158	176	75	-	-	91	679	556	177	867	791
Washington	3	66	239	56	533	747	254	501	-	85	1,057	891	398	2,157	1,937
Arizona	-	12	36	-	26	28	-	6	-	2	-	8	2	44	72
Nevada	-	11	1	-	26	28	4	12	-	5	6	38	9	55	67
Idaho	-	6	3	1	34	15	-	2	-	-	-	3	1	42	21
Montana	-	-	11	-	16	-	-	-	-	-	-	-	-	16	11
Wyoming	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Utah	-	2	12	-	16	14	-	-	-	1	1	-	1	19	26
Colorado	-	-	-	-	4	-	-	-	-	-	1	3	-	5	3
New Mexico	-	-	-	-	-	2	-	-	-	5	23	-	5	23	2
North Dakot	-	-	-	2	-	-	-	-	-	-	-	-	2	-	-
South Dakot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Minnesota	-	1	-	-	4	-	-	-	-	1	1	-	1	6	-
Nebraska	-	4	-	-	6	-	-	-	-	-	2	1	-	12	1
Iowa	-	1	-	-	-	8	-	-	-	13	7	96	13	8	104
Wisconsin	1	2	2	-	-	7	-	1	-	1	2	-	2	5	9
Illinois	1	3	44	-	11	6	-	-	9	40	116	205	41	130	264
Indiana	2	4	8	2	11	36	-	-	-	36	170	145	40	185	189
Michigan	3	3	1	1	6	-	-	-	-	26	28	20	30	37	21
Ohio	7	91	106	4	12	4	-	-	-	37	117	143	48	220	253
Kentucky	3	9	30	3	39	12	-	-	-	8	7	5	14	55	47
Tennessee	-	-	10	-	26	47	-	5	-	4	81	140	4	112	197
Missouri	-	-	10	13	10	17	-	-	-	72	37	73	85	47	100
Kansas	-	-	66	-	-	2	-	-	-	2	3	13	2	3	81
Texas	96	1,429	9,416	381	1,505	6,310	2,928	9,615	21,365	1,268	4,198	3,708	4,673	16,747	40,799
Oklahoma	-	-	1	-	15	22	-	-	-	-	-	-	-	15	23
Arkansas	-	2	3	21	5	5	-	-	-	36	49	33	57	56	41
Louisiana	-	124	578	413	437	1,561	4,165	1,596	2,101	396	1,165	1,097	4,974	3,322	5,437
Mississipp	-	1	2	69	6	6	9	-	-	75	26	2	153	33	10
Alabama	4	5	-	23	37	36	40	-	-	26	231	210	93	273	246

Sales of distillate fuel oil, Diesel fuel and residual fuel oil in 1941-1943
to the U. S. Navy, Army and Coast Guard - Continued
(Thousands of barrels of 42 gallons)

	Distillate fuel oil			Diesel fuel			Navy grade			Residual fuel oil			Total		
	1941	1942	1943	1941	1942	1943	1941	1942	1943	1941	1942	1943	1941	1942	1943
Maine	-	12	50	16	14	7	1	1	-	46	23	48	63	50	105
New Hampshire	-	16	11	48	39	16	-	-	-	128	1	-	176	56	27
Vermont	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Massachusetts	29	27	88	111	177	124	434	974	838	269	311	128	843	1,489	1,178
Rhode Island	1	14	21	3	5	9	-	-	-	181	-	57	185	19	87
Connec icut	-	13	4	92	57	129	152	78	176	11	1	1	255	149	310
New Yo k	13	29	322	26	138	24	-	-	98	98	119	102	137	286	546
New Je sey	17	72	1,618	136	697	609	717	2,072	1,538	635	996	2,198	1,555	3,837	5,963
Pennsylvania	11	32	1,026	41	63	495	570	231	381	551	1,061	1,533	1,173	1,387	3,435
Delawa e	2	3	3	6	3	2	-	-	72	-	-	27	8	6	104
Marylan d	6	29	103	33	75	258	137	105	128	298	529	601	474	738	1,090
District of Columb a	-	41	42	80	54	51	17	23	2	-	15	219	97	133	314
Virginia	4	28	53	10	30	814	1	-	615	5	177	150	20	235	1,632
West Vi ginia	-	22	53	27	-	-	-	-	-	-	-	-	27	22	53
North C arolina	1	4	5	2	2	9	-	-	-	29	190	310	32	196	324
South C arolina	-	4	-	18	48	38	1	3	-	38	239	118	57	294	156
Georgia	66	3	7	-	2	16	1	-	-	7	61	225	74	66	248
Florida	-	5	38	19	207	248	-	143	198	182	484	645	201	839	1,129
Total U.S.	388	3,009	15,032	2,605	8,260	18,351	20,911	35,460	73,369	4,835	21,071	19,344	28,739	67,800	126,096

Sales of distillate fuel oil, Diesel fuel and residual fuel oil in 1941-1943
for Miscellaneous uses
(Thousands of barrels of 42 gallons)

	Distillate fuel oil			Diesel fuel			Tractor fuel			Residual fuel oil			Total		
	1941	1942	1943	1941	1942	1943	1941	1942	1943	1941	1942	1943	1941	1942	1943
	659	1,019	993	2,046	1,261	1,987			-	1,716	1,520	1,756	4,421	3,800	4,736
California	85	229	131	227	193	258			-	174	238	180	486	660	569
Oregon	114	344	221	365	230	255			-	313	223	257	792	797	733
Washington	58	36	25	103	112	128			-	19	26	36	180	174	189
Arizona	35	22	29	36	44	81			-	14	18	87	85	84	197
Nevada	40	107	37	70	126	92			22	28	45	41	138	278	192
Idaho	75	85	50	73	71	71			69	18	7	15	166	163	205
Montana	35	49	26	46	48	40			36	9	5	2	90	102	104
Wyoming	25	53	15	50	116	130			25	22	63	11	97	232	181
Utah	64	95	52	73	128	66			36	50	35	49	187	258	203
Colorado	30	41	36	36	33	30			5	12	12	5	78	86	76
New Mexico ta	192	210	56	25	22	18			46	1	-	1	218	232	121
North Dak ta	129	122	42	19	27	22			14	18	12	3	166	161	81
South Dak	307	404	138	53	59	75			154	43	35	20	403	498	387
Minnesota	157	183	111	19	46	24			54	50	34	11	226	263	200
Nebraska	559	746	320	63	58	48			218	24	17	6	646	821	592
Iowa	184	254	120	59	57	76			85	41	30	31	284	341	312
Wisconsin	352	375	167	192	211	160	(1)	(1)	103	137	198	452	681	784	882
Illinois	206	252	91	249	59	41			39	48	62	20	503	373	191
Indiana	216	242	28	93	105	111			54	255	236	111	564	583	304
Michigan	123	147	86	95	156	184			131	35	118	33	253	421	434
Ohio	106	116	57	79	80	56			62	63	171	89	248	367	264
Kentucky	128	147	39	119	176	187			108	9	50	35	256	373	369
Tennessee	173	227	111	75	151	134			20	158	157	162	406	535	427
Missouri	179	148	123	56	71	65			22	40	28	48	275	247	258
Kansas	253	239	214	173	250	228			17	298	479	1,117	724	968	1,576
Texas	55	104	194	64	62	78			3	41	47	26	160	213	301
Oklahoma	248	300	139	52	88	104			305	22	33	79	322	421	627
Arkansas	218	255	145	267	318	198			254	577	419	437	1,062	992	1,034
Louisiana pi	160	189	53	123	160	120			170	59	33	218	342	382	561
Mississip	144	149	77	171	203	159			214	78	112	105	393	464	555

Alabama

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Sales of distillate fuel oil, Diesel fuel and residual fuel oil in 1941-1943 for Miscellaneous uses - Continued
(Thousands of barrels of 42 gallons)

	Distillate fuel oil			Diesel fuel			Tractor fuel			Residual fuel oil			Total		
	1941	1942	1943	1941	1942	1943	1941	1942	1943	1941	1942	1943	1941	1942	1943
......	2	-	2	26	36	32			-	18	22	6	46	58	40
Maine....hire..	4	3	-	13	12	7			-	1	1	1	18	16	8
New Hamps......	-	-	2	6	8	5			-	2	2	-	8	10	7
Vermont. setts..	17	21	12	74	74	63			-	44	20	12	135	115	87
Massachu land...	3	3	4	7	33	8			-	144	58	52	154	94	64
Rhode Is cut....	7	3	5	20	19	19			-	42	23	29	69	45	53
Connecti	158	124	67	142	224	299			-	153	70	32	453	418	398
New York y.....	133	84	92	62	183	208			11	164	227	38	359	494	349
New Jerse nia...	107	152	177	93	114	121			2	79	115	6	279	381	306
Pennsylva	6	7	7	-	3	1			-	1	1	-	7	11	8
Delaware.	31	120	127	65	74	77	(1)	(1)	21	37	273	228	133	467	453
Maryland. of															
District a.....	6	11	2	11	27	11			-	19	42	12	36	80	25
Columbi	42	41	46	102	94	126			10	67	91	76	211	226	258
Virginia. inia..	23	14	22	10	50	45			-	-	1	9	33	65	76
West Vir olina.	42	54	112	70	57	77			5	28	69	16	140	180	210
North Ca olina.	56	97	55	78	104	105			49	63	136	42	197	337	251
South Car	168	240	42	86	144	95			109	90	73	28	344	457	274
Georgia..	175	196	189	131	251	252			93	244	332	390	550	779	924
Florida.. S...	6,239	8,059	4,889	6,167	6,228	6,777			2,566	5,568	6,019	6,420	18,024	20,306	20,652
Total U															

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UNITED STATES DEPARTMENT OF THE INTERIOR

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MMS NO. 1390

PHOSPHATE ROCK INDUSTRY OF THE WESTERN STATES - IDAHO, MONTANA, UTAH AND WYOMING - IN 1945.

A new high record for the value of the phosphate rock marketed production featured the Western States phosphate rock industry in 1945, when the total value of that sold or used exceeded 1½ million dollars ($1,589,915), according to reports from the producers to the Bureau of Mines, United States Department of the Interior. This, an increase of 18 percent over the 1944 figure, reflects a higher average value per ton of rock. The tonnage marketed, however, (274,198 long tons with a P_2O_5 content of 88,052 tons) was less in 1945 than in 1944 when 298,999 tons, containing 95,767 tons P_2O_5 were sold or used. This was a decrease of 8 percent from the record high of the previous year, but it still remained greater than for any other year. The production in 1945 came from Idaho and Montana; only development work was reported in Wyoming, and Utah remained inactive. The average P_2O_5 content of the Western States phosphate rock sold or used in 1945 is reported to have been 32.11 percent, a little above that of 1944 (32.02 percent).

Montana continued to be the largest phosphate rock producer of the Western States group in 1945 as in other recent years, its lead over Idaho, however, dropping to only 27,518 long tons. Its total in 1945 (150,858 long tons with a P_2O_5 content of 49,068 tons) was a decrease of 19 percent from 1944. The average P_2O_5 content was 32.53 percent, slightly higher than that of 1944 (32.16 percent). The Montana Phosphate Products Co. of Trail, British Columbia, still the largest producer in the Western States in 1945 in spite of a marked decrease in production in 1945, operated its Anderson, Anaconda, and Graveley mines as well as several Government leases. Most of the mined product was exported to the plant of the Consolidated Mining and Smelting Co., of Canada, Ltd., at Trail, but a considerable quantity was sold in the United States. The International Minerals and Chemical Corporation operated its property in the Douglas Creek area, Granite County, during the early months of 1945. Considerable phosphate rock was mined. The crude ore was taken to its concentrating plant at Sherryl on the Philipsburg branch of the Northern Pacific railway, and the concentrates produced were shipped. Lee H. Skeels, trustee for and leasee of the Soluble Phosphates Ltd., Maxville, Granite County, Montana, mined a small tonnage at the Master Key mine near Maxville in 1945, ground, and shipped the product for direct application to the soil.

A record marketed production of Idaho phosphate rock was made in 1945 (123,340 long tons containing 38,984 tons P_2O_5 content). This was an increase of 8 percent over the previous record made in 1942 (114,079 tons). The average P_2O_5 content was 31.61 percent, a little below that of 1944 (31.80 percent). There were three phosphate rock producing companies in Idaho in 1945. By far the largest of these,

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Prepared by Bertrand L. Johnson and E. M. Tucker, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division; Economics and Statistics Branch.

the Anaconda Copper Mining Co., operated its No. 3 mine at Conda, Caribou County. Most of the shipments in 1945 as in prior years, went to the company's plant at Anaconda, Montana, for conversion to superphosphate and phosphate chemicals. A considerable quantity was sold to other domestic consumers. The San Francisco Chemical Co., 216 Pine Street, San Francisco 4, California, started operations again at its Waterloo mine, near Montpelier, Bear Lake County, Idaho, during 1945, and mined a sizeable quantity, part of which was sold for the manufacture of superphosphate, and the remainder retained in stock. The Teton Phosphate Co., Montpelie Idaho, mined phosphate rock from its Bennington mine near Bennington, Bear Lake County, Idaho. This was ground in the company plant and sold for direct application to the soil.

No phosphate rock was produced in either Utah or Wyoming in 1945. The Garfield Chemical and Manufacturing Corporation, Salt Lake City, Utah, which mined and shipped phosphate rock in 1942, from a Federal lease near Spanish Fork, Utah County Utah, made no production in 1943, 1944, or 1945. In Wyoming, Mr. John M. Thomas, Cokeville, Wyoming, reported only development work at his property near Cokeville, Lincoln County.

The average value per ton of the Western States phosphate rock sold or used, as reported by the producers to the Bureau of Mines, increased sharply in 1945 - $1.30 per ton - from $4.50 in 1944 to $5.80 per ton in 1945. There was an increase of only 27 cents per ton in Idaho, but one of $1.98 in Montana.

Western States phosphate rock sold or used by producers, 1941-45.

Year	Idaho			Montana			Utah			Total		
	Long tons	Value at mines		Long tons	Value at mines		Long tons	Value at mines		Long tons	Value at mines	
		Total	Average		Total	Average		Total	Average		Total	Average
1941	97,274	$444,154	$4.57	105,108	$318,588	$3.03	1,340	$8,535	$6.37	203,722	$771,277	$3.79
1942	114,079	511,249	4.48	150,402	572,464	3.81	1,184	7,410	6.26	265,665	1,091,123	4.11
1943	108,916	561,630	5.16	119,764	488,665	4.08	---	---	---	228,680	1,050,295	4.59
1944	112,565	584,400	5.19	186,434	761,745	4.09	---	---	---	298,999	1,346,145	4.50
1945	123,340	673,627	5.46	150,858	916,288	6.07	---	---	---	274,198	1,589,915	5.80

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

HAROLD L. ICKES, Secretary R. R. SAYERS, Director

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FOR RELEASE MARCH 18, 1946.

MINERAL MARKET REPORT
MMS. NO. ~~1957~~ 1391

BARITE IN THE FOURTH QUARTER 1945 - PRELIMINARY FIGURES FOR YEAR 1945.

More barite was produced in the United States in 1945 than during any previous year, according to producers reports to the Bureau of Mines, United States Department of the Interior. Output of primary barite reached 690,152 short tons, 34 percent greater than the previous record year, 1944. Arkansas accounted for the greatest production, 260,662 tons, and Missouri followed with 221,038 tons. The tremendous demand for barite in weighting rotary oil well drilling muds stimulated the completion of new capacity in 1945, especially in Arkansas and Missouri. Shipments of ground barite to well drillers reached the record total of 413,620 short tons, about three times average prewar shipments. Primary barite includes and is limited to ground barite produced at El Portal, Calif.; flotation barite produced at Malvern, Ark., and Cartersville, Ga.; and all crude, lump, and pebble barite produced in the United States except a very small amount of hand-mined material not included in the canvass. The term primary barite is intended to encompass production of all barite regardless of the form in which it is marketed, but is intended to exclude as a duplication any ground or crushed barite which has already been included as lump material.

Imports of crude and ground barite into the United States for consumption, in the fourth quarter of 1945, by countries

Country	October		November		December		Total	
	Short tons	Value	Short tons	Value	Short tons	Value	Short tons	Value
Crude barite:								
Canada.......	2,520	$14,318	4,458	$25,328	---	---	6,978	$39,646
Mexico.......	254	1,572	---	---	---	---	254	1,572
	2,774	$15,890	4,458	$25,328	---	---	7,232	$41,218
Ground barite:								
Canada.......	---	---	---	---	1	$15	1	$15

Imports of crude and ground barite into the United States for consumption, during the four quarters of 1945, by countries

Country	1st quarter	2nd quarter	3rd quarter	4th quarter	Total for year	
	Short tons	Short tons	Short tons	Short tons	Short tons	Value
Crude barite:						
Canada.......	2,288	18,446	21,774	6,978	49,486	$327,242
Mexico.......	994	2,234	1,616	254	5,098	25,952
Cuba.........	2,307	---	---	---	2,307	29,417
	5,589	20,680	23,390	7,232	56,891	$382,611
Ground barite:						
[illegible]nada.......	---	---	---	1	1	$15

Prepared by Charles L. Harness and F. M. Barsigian, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division; Economics and Statistics Branch.

Production, consumption, and stocks of barite during the fourth quarter of 1944 and 1945, in short tons

	October		November		December		Total for quarter	
	1944	1945	1944	1945	1944	1945	1944	1945
Production of primary barite by States:								
Georgia	10,627	8,974	9,620	7,932	6,569	5,278	26,816	22,184
Missouri	15,808	21,831	15,228	20,776	9,280	12,722	40,316	55,329
Tennessee	4,136	3,258	3,490	2,867	1,940	1,618	9,566	7,743
Other States	22,173	33,830	18,566	26,297	19,000	24,962	1/59,739	1/85,089
	52,744	67,893	46,904	57,872	36,739	44,580	136,437	170,345
Consumption of domestic primary barite by Uses:								
Well drilling	26,054	36,645	30,171	35,883	25,249	26,512	81,474	99,040
Chemicals	4,984	7,852	3,847	7,619	2,722	6,135	11,553	21,606
Lithopone	15,559	14,567	9,193	11,009	5,813	7,876	30,565	33,452
Glass	1,862	1,969	2,141	2,652	1,948	1,318	5,951	5,939
Filler	2,367	3,352	3,604	2,719	2,904	2,382	8,875	8,453
	50,826	64,385	48,956	59,882	38,636	44,223	138,418	168,490
Production of ground and crushed barite	30,608	44,319	34,698	41,707	32,477	37,309	97,783	123,335
Crude barite stocks end of month:								
Held by producers, crushers, and grinders of crude barite	27,846	39,746	25,811	38,803	25,955	32,510	---	---

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1/ Includes Arkansas, California, Nevada, and North Carolina.

Production, consumption, and stocks of barite during the four quarters of 1944 and 1945, in short tons

	1st quarter		2nd quarter		3rd quarter		4th quarter		Total for year	
	1944	1945	1944	1945	1944	1945	1944	1945	1944	1945
Production of primary barite by States:										
Arkansas............	(1/)	55,613	(1/)	66,643	(1/)	68,288	(1/)	70,118	(1/)	260,662
Georgia............	20,409	28,139	24,391	27,881	33,267	31,278	26,816	22,184	104,883	109,482
Missouri............	28,227	46,234	34,482	57,197	43,783	2/62,278	40,316	55,329	146,808	221,038
Tennessee...........	9,789	7,713	9,151	8,546	11,844	9,473	9,566	7,743	40,350	33,475
Other States.........	3/38,525	4/ 7,578	5/57,046	6/17,110	5/69,231	6/25,836	6/59,739	7/14,971	5/224,541	7/65,495
	96,950	145,277	125,070	177,377	158,125	2/197,153	136,437	170,345	516,582	690,152
Consumption of domestic primary barite by Uses:										
Well drilling........	54,811	91,781	63,667	122,115	76,511	2/100,684	81,474	99,040	276,463	413,620
Chemicals............	31,174	15,724	41,616	16,801	56,018	23,112	42,118	21,606	170,926	77,243
Lithopone............		22,075		26,027		36,896		33,452		118,450
Glass................	4,943	5,991	7,808	6,388	8,191	6,422	5,951	5,939	26,893	24,740
Filler...............	7,574	8,833	9,844	11,484	9,635	2/ 9,855	8,875	8,453	35,928	38,625
	98,502	144,404	122,935	182,815	150,355	176,969	138,418	168,490	510,210	672,678
Production of ground and crushed barite..........	71,524	111,622	84,151	135,029	92,524	119,490	97,783	123,335	345,982	489,476
Crude barite stocks end of quarter: Held by producers, crushers, and grinders of crude barite......	20,719	22,069	21,609	21,109	27,808	2/ 37,925	25,955	32,510	--	--

1/ Included in Other States.
2/ Revised figures. 3/ Includes Arkansas, California, and South Carolina. 4/ Includes California and North Carolina.
5/ Includes Arkansas, California, Nevada, North Carolina, and South Carolina. 6/ Includes California, Nevada, and North Carolina.
7/ Includes Arkansas, California, Nevada, and North Carolina.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

FOR RELEASE APRIL 22, 1946.

MINERAL MARKET REPORTS
M. M. S. NO. 1392.

APR 1

FINAL ANNUAL FIGURES - PLEASE FILE FOR REFERENCE UNTIL PRINTED REPORT IS AVAILABLE

FLUORSPAR INDUSTRY IN 1945

Production, shipments, and consumption of fluorspar declined in 1945, chiefly as a result of the end of hostilities, according to the Bureau of Mines, United States Department of the Interior. However, imports of fluorspar established a new high in 1945.

Production of finished fluorspar from domestic ore was 325,200 short tons in 1945, a decline of 21 percent from 1944. Output of metallurgical-grade and ceramic-grade fluorspar was ample for requirements throughout 1945. However, production of acid-grade fluorspar from domestic ore was not adequate for requirements up to V-J day, as during the first 7 months of 1945 output averaged only 8,700 tons monthly, whereas consumption averaged about 11,600 tons. The deficit in domestic production of acid-grade fluorspar was met by milling Mexican ore and by the use (after drying) of a substantial quantity of flotation concentrates from Newfoundland. Flotation mills in the United States recovered 16,486 tons of acid-grade fluorspar from milling Mexican ore in 1945. The concentrates so recovered, as well as shipped, are not included in the statistics on production and shipments.

Shipments from mines in 1945, aggregating 323,961 short tons, were 22 percent less than the all-time high established in 1944. Illinois maintained its rank as the chief producing State in 1945 by supplying 45 percent of the total shipments. All producing States, except Arizona and Washington, shipped less fluorspar in 1945 than in 1944. Shipments by river or river-rail were 52,718 tons in 1945 compared with 69,536 tons in 1944.

Consumption of fluorspar declined to 356,090 short tons in 1945 from the all-time high of 410,170 tons in 1944. The steel industry continued to be the principal consumer of fluorspar and accounted for 56 percent of the total. The average consumption of fluorspar per ton of basic open-hearth steel made declined from 5.7 pounds in 1944 to 5.5 pounds in 1945. Consumption of fluorspar in the manufacture of hydrofluoric acid, the second largest user, also declined, but the glass industry, which ranked third in importance as a consumer of this mineral, used 17 percent more than in 1944.

Prepared by Hubert W. Davis and Gertrude N. Greenspoon under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Fluorspar imported for consumption in the United States in 1945 (103,133 short tons) established a new high and was 18 percent more than in 1944. In 1945, as in 1944, the bulk of the imported fluorspar was delivered to Government stock piles.

Stocks of fluorspar at consumers' plants were 103,148 short tons on December 31, 1945, a gain of 5 percent over those at the end of 1944. Stocks of finished fluorspar at mines (20,249 tons) were 6 percent greater. Stocks of finished fluorspar held by the Office of Metals Reserve were 198,856 tons at the close of 1945 compared with 129,885 tons at the end of 1944.

Fluorspar shipped from mines in the United States, 1944-45, by States

State	1944			1945		
	Short tons	Value		Short tons	Value	
		Total	Average		Total	Average
Illinois......	176,259	$ 5,954,991	$33.79	147,251	$5,014,807	$34.06
Kentucky......	112,791	3,363,788	29.82	95,142	2,832,945	29.78
Colorado......	65,209	1,604,043	24.60	52,437	1,333,735	25.43
New Mexico....	42,973	1,205,830	28.06	14,449	390,331	27.01
Nevada........	7,293	251,421	23.37	7,038	304,045	22.43
Utah..........	3,466			2,973		
Texas.........	4,769	100,381	21.05	3,413		
Washington....	....	....	.....	132		
Arizona.......	976	21,983	22.52	1,126	21,016	18.66
California....	26	650	25.00	....	....	.....
Wyoming.......	19	400	21.05	....	....	.....
	413,781	12,503,487	30.22	323,961	9,896,879	30.55

Fluorspar shipped from mines in the United States, 1944-1945, by uses

Use	1944			1945		
	Short tons	Value		Short tons	Value	
		Total	Average		Total	Average
Steel................	219,361	$ 6,087,077	$27.75	186,073	$5,182,059	$27.85
Iron foundry.........	4,044	109,869	27.17	3,422	94,852	27.72
Glass................	27,174	892,761	32.85	32,300	1,033,737	32.00
Enamel...............	2,685	90,444	33.68	3,660	128,612	35.14
Hydrofluoric acid.....	121,084	4,251,686	35.11	80,155	2,896,267	36.13
Miscellaneous.........	13,057	416,672	31.91	7,482	254,560	34.02
Government stock pile.................	24,396	589,069	24.15	9,449	260,853	27.61
Foreign consumption...	1,980	65,909	33.29	1,420	45,939	32.35
	413,781	12,503,487	30.22	323,961	9,896,879	30.55

Fluorspar shipped from mines in the United States, 1944-1945, by grades and industries, in short tons

Grade and industry	1944	1945
Fluxing gravel and foundry lump:		
Ferrous	210,930	1/184,645
Nonferrous	1,264	1,170
Cement	646	326
Miscellaneous	389	158
Government stock pile	23,824	7,225
Exported	55	....
	237,108	1/193,524
Acid lump:		
Ferrous	20	36
Nonferrous	....	2
Hydrofluoric acid	1,572	593
	1,592	631
Ground and flotation concentrates:		
Ferrous	2/ 14,715	2/3/ 6,791
Nonferrous	6,157	2,211
Glass and enamel	29,859	35,960
Hydrofluoric acid	119,512	79,562
Miscellaneous	2,341	1,638
Government stock pile	572	2,224
Exported	1,925	1,420
	175,081	3/129,806
Total:		
Ferrous	225,665	191,472
Nonferrous	7,421	3,383
Cement	646	326
Glass and enamel	29,859	35,960
Hydrofluoric acid	121,084	80,155
Miscellaneous	2,730	1,796
Government stock pile	24,396	9,449
Exported	1,980	1,420
	413,781	323,961

1/ Includes 4,182 tons of flotation concentrates, which were blended with fluxing gravel.

2/ Includes pelletized gravel.

3/ Excludes 4,182 tons of flotation concentrates, which were blended with fluxing gravel.

Fluorspar (domestic and foreign) consumed and in stock in the United States, 1944-1945, by industries, in short tons

Industry	1944			1945		
	Consumption	Stocks at consumers' plants Dec. 31	In transit to consumers' plants Dec. 31	Consumption	Stocks at consumers' plants Dec. 31	In transit to consumers' plants Dec. 31
Basic open-hearth steel...........	201,788	56,956	6,566	176,488	67,800	5,871
Electric-furnace steel...........	27,307			20,873		
Bessemer steel...	1,106			555		
Iron foundry.....	4,101	1,345	.....	3,877	1,082	51
Ferro-alloys.....	3,714	876	.....	2,909	1,013	.....
Hydrofluoric acid	129,553	27,249	1,325	109,315	20,757	506
Primary aluminim.	1,487	696	.....	1,190	665	.....
Primary magnesium	5,594	943	.....	811	757	.....
Glass............	27,315	5,621	950	31,874	5,962	681
Enamel...........	2,547	1,202	98	3,695	1,433	101
Welding rod......	1,928	175	1	1,457	257	.....
Cement...........	421	1,278	.....	365	1,214	.....
Miscellaneous....	3,309	2,105	101	2,681	2,208	12
	410,170	98,446	9,041	356,090	103,148	7,222

Fluorspar imported for consumption in the United States, 1944-45, by countries
(Source: U. S. Department of Commerce)

Country	1944		1945	
	Short tons	Value	Short tons	Value
Canada........................	69	$1,951	1/ 2,361	1/ $75,085
Mexico........................	58,324	980,089	62,575	1,054,692
Newfoundland..................	16,072	431,232	1/ 10,875	1/ 332,556
Spain.........................	9,177	222,080	27,322	694,125
Union of South Africa.........	3,557	44,715	......	....
United Kingdom................	1	37	......	....
	87,200	1,680,104	103,133	2,156,458

1/ Bureau of Mines has determined that 1,691 tons valued at $56,918 credited to Canada by the U. S. Department of Commerce, originated in Newfoundland.

Imported fluorspar delivered to consumers in the United States, 1944-45, by uses

Use	1944			1945		
	Short tons	Selling price at tidewater, border, or f.o.b. flotation mill in United States, including duty		Short tons	Selling price at tidewater, border, or f.o.b. flotation mill in United States, including duty	
		Total	Average		Total	Average
Steel..........	1,639	$42,804	$26.12	21,027	$555,530	$26.42
Hydrofluoric acid..........	5,907	208,067	35.22	22,579	811,025	35.92
Magnesium........	224	6,419	28.66	60	2,100	35.00
Ferro-alloys....	45	1,390	30.89	193	5,769	29.89
Glass and enamel	.....	....	.....	548	18,110	33.05
Other..........	.....	....	.....	125	4,625	37.00
	7,815	258,680	33.10	44,532	1,397,159	31.37

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

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FOR RELEASE May 3, 1946.

MINERAL MARKET REPORT
MMS NO. 1393

SLATE INDUSTRY IN 1945, ANNUAL FIGURES

Slate production in the United States in 1945 amounted to 551,890 short tons valued at $5,658,913 according to figures compiled by the Bureau of Mines, United States Department of the Interior, from reports furnished by slate producers, an increase of 16 percent in quantity and 13 percent in value over 1944 production - 477,840 short tons valued at $5,004,195. Increases were general throughout the industry, showing substantial gains in all classifications with the exception of three mill stock items.

Roofing slate sales increased 14 percent in quantity and 22 percent in value (101,300 squares valued at $976,122) compared with sales in 1944 (89,090 squares valued at $802,179) but they are still abnormally low compared with pre-war years. Sales in the Pennsylvania area (75,970 squares valued at $704,061) were 8 percent higher in quantity and 15 percent higher in value than in 1944. Combined sales in New York, Vermont, and Maine although still at a very low level were nearly twice as great as in 1944. In the Buckingham region, Virginia, sales increased moderately.

Sales of mill stock, which include slate sold for structural and sanitary use, electrical slate, blackboards, bulletin boards, school slates, billiard-table tops, and grave vaults and covers, totaled 2,107,780 square feet valued at $742,345, an increase of 3 percent in quantity and 4 percent in value over 1944 (2,041,219 square feet valued at $715,689). Slate used for structural and sanitary purposes, grave vaults and covers, and billiard-table tops showed declines varying from 10 to 20 percent in both quantity and value from 1944 sales of these products.

Slate sold for flagging, including dimension slate sold for walkways, stepping stones, and miscellaneous uses totaled 2,995,670 square feet valued at $253,273, an increase of 34 percent in quantity and 25 percent in value compared with 1944.

Sales of crushed slate for roofing granules, and for flour, which is used in a variety of products, increased 16 percent in quantity and 12 percent in value (482,230 short tons valued at $3,687,173). The average value of these products f.o.b. mill decreased 45 cents per ton for granules and 32 cents per ton for flour, reversing the almost universal 1945 uptrend in unit values.

The accompanying table presents data on production of slate in the United States in 1944 and 1945.

Prepared by M. G. Downey under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

Salient statistics of the slate industry in the United States, 1944-45

	1944			1945				
	Quantity			Quantity			Percent of Change in	
	Unit of measurement	Approximate equivalent short tons	Value	Unit of measurement	Approximate equivalent short tons	Value	Quantity (unit as reported	Value
Domestic production (sales by producers):	Squares			Squares				
Roofing slate.......	89,090	32,750	$802,179	101,300	38,240	$976,122	+13.7	+21.7
Mill stock:	Sq. ft.			Sq. ft.				
Electrical slate......	349,480	2,930	264,088	363,210	3,100	283,650	+3.9	+7.4
Structural and sanitary slate......	391,280	3,250	151,069	314,200	2,480	135,671	-19.7	-10.2
Grave vaults and covers.	351,230	3,360	105,501	314,710	2,850	88,146	-10.4	-16.5
Blackboards and bulletin boards.....	502,750	1,270	121,048	649,510	1,650	170,392	+29.2	+40.8
Billiard-table tops.	190,190	1,400	67,168	158,580	1,160	56,453	-16.6	-16.0
School slates	1/256,280	230	6,815	1/307,570	280	8,033	+20.0	+17.9
Total mill stock.....	2,041,210	12,440	715,689	2,107,780	11,520	742,345	+3.3	+3.7
Flagstones, etc. 2/....	2,235,960	15,760	203,090	2,995,670	19,900	253,273	+34.0	+24.7
Total slate as dimension stone.......	-------	60,950	1,720,958	-------	69,660	1,971,740	+14.3	+14.6
Granules and flour.......	-------	416,890	3,283,237	-------	482,230	3,687,173	+15.7	+12.3
Grand total domestic production..	-------	477,840	5,004,195	-------	551,890	5,658,913	+15.5	+13.1

1/ Square feet, approximate. Number of pieces: 1944, 479,030; 1945, 353,400.

2/ Includes slate used for walkways, stepping stones, and miscellaneous uses.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

MAY 6

For Release May 3, 1946

MINERAL MARKET REPORT
M.M.S. No. 1394

BORON MINERALS IN 1945

Reconversion of the refrigerator, washing machine, and ceramic industries brought about the greatest production of boron minerals since 1937, according to reports of producers to the Bureau of Mines, United States Department of the Interior. Production of boron minerals which had been steadily mounting since the war-time low of 226,723 short tons in 1942, reached 325,935 tons in 1945.

Besides being an essential ingredient of the shiny white finish on sheet steel articles, boron minerals are also used in glass (the main war-time use), water treatment, soaps, medicines, ferrous alloys, flame-resisting paints, and fertilizers. The United States is the world's main source of boron minerals, in normal times exporting one-third to one-half of production.

In 1945 the following firms reported production of boron minerals:

American Potash & Chemical Corp., 122 East Forty-second Street, New York City; plant at Trona, Calif., on Searles Lake.

Pacific Coast Borax Co., 510 West Sixth St., Los Angeles 14, Calif., mine at Boron.

United States Borax Co., 510 West Sixth St., Los Angeles 14, Calif., mine near Shoshone.

West End Chemical Co., 608 Latham Square Building, Oakland, Calif., plant at Westend, on Searles Lake.

Boron minerals sold or used by producers in the United States, 1941-45[1]

Year	Gross weight Short tons	B_2O_3 content Short tons	Value
1941	301,282	95,200	$6,785,662
1942	226,723	77,600	5,733,648
1943	256,633	87,600	6,401,507
1944	277,586	91,700	6,579,587
1945	325,935	104,600	7,635,365

[1] 1941: Borax, kernite, boric acid, and colemanite; 1942-45: Borax, anhydrous sodium tetraborate, kernite, boric acid, and colemanite.

Prepared by Charles L. Harness and F. M. Barsigian, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

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MINERAL INDUSTRY SURVEYS
UNITED STATES DEPARTMENT OF THE INTERIOR
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FOR RELEASE May 3, 1946

MINERAL MARKET REPORT
MMS No. 1395

CELESTITE IN 1945

The celestite (strontium sulfate) industry waned further in 1945, four producers reporting shipments of 2,784 short tons valued at $27,840, compared with 3,005 tons valued at $48,165 in 1944, according to the Bureau of Mines, United States Department of the Interior.

During the war domestic celestite was valuable as a substitute for barite in weighting rotary oil well drilling muds and to some extent in the manufacture of strontium chemicals. As war demands eased, barite became more plentiful in the drilling areas, and also requirements for strontium chemicals in tracer bullets and flares were reduced drastically. Celestite producers have been forced to seek other outlets, generally local, such as use in purifying caustic soda solutions and in making small quantities of strontium chemicals for peace-time application.

Imports of celestite into the United States and exports of strontium chemicals are given in the following tables.

Imports of celestite for consumption in the United States, by countries, 1943-45, in short tons

Country	1943		1944		1945	
	Short tons	Value	Short tons	Value	Short tons	Value
United Kingdom..	1,367	$21,347	1	$652	---	---
Mexico..........	11,060	148,233	3,170	38,191	3,016	$38,365
Spain...........	4,454	80,000	2,622	47,576	675	12,251
	16,881	249,580	5,793	86,419	3,691	50,616

Prepared by Charles L. Harness and F. M. Barsigian under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

Exports of strontium chemicals from the United States, 1944-45, in short tons

	1944		1945	
	Short tons	Value	Short tons	Value
Strontium nitrate........	223	$36,698	284	$52,129
Strontium oxalate........	2	1,198	19	15,058
Other....................	13	7,823	16	24,254
	238	45,719	319	91,441

The following producers reported shipments in 1945:

W. C. Buchler & W. H. Rowe, 1555 Sunset Ave., Pasadena 3, Calif.
The Pan-Chemical Co., 205 First National Bank Building, Pomona, Calif.
Milwhite Company, Inc., Cotton Exchange Building, Houston, Tex.
Bennett-Clark Co., Inc., Nacogdoches, Tex.

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MINERAL MARKET REPORT
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FOR RELEASE May 3, 1946

NATURAL SODIUM SULFATES AND CARBONATES IN 1945.

Sales of natural sodium sulfates and carbonates increased in 1945 over 1944, carbonate sales establishing a new record, according to the Bureau of Mines, United States Department of the Interior. Natural sodium sulfate is used principally in the West and South in the manufacture of kraft paper, glass, in stock feeds, and as a flux in metallurgy. Natural sodium carbonate is consumed principally on the Pacific coast, where it is used in glass manufacture and in alkali cleansers. Sales data are given in the following table.

Natural sodium sulfates and sodium carbonates sold or used by producers in the United States, 1940-45

Year	Sodium sulfates 1/		Sodium carbonates 2/	
	Short tons	Value	Short tons	Value
1940.............	184,571	$1,528,633	130,034	$1,629,283
1941.............	154,327	1,443,137	146,677	1,822,986
1942.............	169,870	1,669,983	150,619	2,145,289
1943.............	160,622	1,553,549	165,993	2,544,086
1944.............	168,923	1,577,982	184,826	2,869,243
1945.............	178,196	1,525,159	194,045	3,034,118

1/ Tonnage figures for sulfates include Glauber's salt converted to 100% Na_2SO_4 basis. In earlier mineral market reports of this series the figures given for sulfates include those for Glauber's salt not so converted and were as follows - 1940: 187,233 tons; 1941: 157,524 tons; 1942: 175,033 tons; and 1943: 165,908 tons. Figures for 1940-42 include some burkeite.

2/ 1940-41: Soda ash, bicarbonate, and trona; 1942-45: Soda ash and trona.

Prepared by Charles L. Harness and F. M. Barsigian, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

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The following firms reported production of natural sodium sulfates: American Potash & Chemical Corp., 122 East Forty-second St., New York City., plant at Trona, Calif.; Arizona Chemical Co., 30 Rockefeller Plaza, New York City, plants at O'Donnell and Brownfield, Tex.; Iowa Soda Products Co., Council Bluffs, Iowa, plant at Rawlins, Wyo.; Ozark Chemical Co., P. O. Box 449, Tulsa, Okla., plant at Monahans, Tex.; and Wm. E. Pratt, P. O. Box 738, Casper, Wyo.

The following firms reported production of natural sodium carbonates: American Potash & Chemical Corp., Trona, Calif.; Natural Soda Products Co., 405 Montgomery St., San Francisco 4, Calif., plant at Keeler; Pittsburgh Plate Glass Co., Columbia Chemical Div., Bartlett, Calif.; and West End Chemical Co., 608 Latham Square Bldg., Oakland 12, Calif., plant at Westend.

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MAY 13 1946

FOR RELEASE MAY 13, 1946.

MINERAL MARKET REPORTS
M. M. S. NO. 1397.

NICKEL IN 1945

Nickel was consumed at a high rate up to V-E day, after which demand slackened until V-J day, when because of the cancellation of war contracts, there was a sharp decline in consumption, according to the Bureau of Mines, United States Department of the Interior. Nevertheless, according to a survey, the first of its kind made by the Bureau of Mines, 192,474,292 pounds of nickel (exclusive of purchased and home scrap) were consumed in 1945. Most of the nickel used in 1945 was in the form of new metal, but 11,035,457 pounds of oxide, 7,906,196 pounds of secondary metal, and 19,809,007 pounds of matte were also employed. The continued use of NE (national emergency) steels and the recovery of nickel scrap resulted in a substantial saving in nickel in 1945. Stocks of nickel (exclusive of purchased and home scrap) held by consumers were 21,681,783 pounds on December 31, 1945, compared with 17,154,448 pounds at the close of 1944.

The data in the next table cover all known consumers of nickel in the form of primary, secondary, oxide, and cobalt-nickel compound. The figures for nickel salts, however, fall short of the total; nevertheless, they cover most all of the larger and many of the smaller users of nickel in this form.

Nickel (exclusive of purchased and home scrap) consumed in the United States in 1945 and stocks at consumers' plants on Dec. 31, 1944 and 1945, by forms, in pounds of contained nickel 1/

Form	Stocks at consumers' plants Dec. 31, 1944	Consumption in 1945	Stocks at consumers' plants Dec. 31, 1945	In transit to consumers' plants Dec. 31, 1945
Primary................	11,166,243	153,237,751	13,349,505	566,383
Secondary (remelted from scrap)..........	1,909,279	7,906,196	2,976,228	2,000
Oxide..................	184,119	11,035,457	1,353,004	230,375
Matte..................	3,383,004	19,809,007	3,409,699	....
Mayari iron ore........	268,975	100	262,125	....
Nickel-cobalt compound..	872	8,681	3,494	....
Salts..................	241,956	477,100	327,728	228
	17,154,448	192,474,292	21,681,783	798,986

1/ Figures are preliminary and subject to slight revision.

Prepared by Hubert W. Davis under the Supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Although much greater in 1945 than in recent years, the domestic output of primary nickel was as heretofore insignificant; production was 1,155 short tons in 1945 compared with 988 tons in 1944.

Nickel production in Canada was 121,978 short tons in 1945 compared with 137,299 tons in 1944. Production of nickel in Cuba in 1945 was more than double that of 1944 and as a consequence it displaced New Caledonia as the second largest producer in the world. Output of nickel oxide in Cuba was 15, 425 short tons (12,015 tons nickel content) in 1945 compared with 6,902 tons (5,157 tons nickel content) in 1944.

Imports of nickel in all forms were about 9 percent less in 1945 than in 1944. Smaller receipts from Canada and New Caledonia were partly offset by much larger supplies from Cuba and the United Kingdom. As heretofore, Canada was the chief source of the imports; it supplied 150,392,339 pounds of metallic nickel, 37,067,200 pounds of matte, 1,656,519 pounds of washed sulfide, and 4,965,965 pounds of oxide. New Caledonia supplied 11,353,451 pounds of matte, Cuba 33,208,880 pounds of oxide, and the United Kingdom 6,411,827 pounds of metallic nickel. The nickel content of the unmanufactured nickel products imported into the United States is estimated at 214,866,000 pounds in 1945 compared with 236,586,000 pounds in 1944.

Nickel imported for consumption in the United States, 1944-45, by classes, in pounds
(Source: U. S. Department of Commerce)

Class	1944	1945
Nickel ore and matte	72,828,746	50,077,170
Nickel pigs, ingots, shot, etc	186,104,935	156,804,166
Nickel bars, rods, tubes, etc	300	....
Nickel oxide	10,929,012	38,174,845
Nickel silver or German silver in sheets, strips, rods and wire	291	408

Exports of nickel comprise largely products manufactured from imported raw materials. Exports of alloys and scrap and of metallic nickel in 1945 were 43 and 77 percent, respectively, less than in 1944, but exports of nickel-chrome electric resistance wire and nickel silver were 103 and 156 percent, respectively, greater.

Nickel exported from the United States, 1944-45, by classes, in pounds
(Source: U. S. Department of Commerce)

Class	1944	1945
Ore, concentrate, and matte	1,521	15
Alloys and scrap containing nickel (including Monel metal)	8,041,351	4,573,476
Metal in ingots, bars, sheets, etc	6,892,221	1,614,045
Nickel-chrome electric resistance wire	477,476	971,549
Nickel silver or German silver, crude, scrap, or bars, rods, etc	104,539	267,145
Nickel salts and compounds	345,682	326,749

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MINERAL MARKET REPORT
MMS No. 1398

PRODUCTION OF COKE AND BYPRODUCTS FROM COAL-GAS RETORTS IN 1945

The production of gashouse coke in the United States in 1945 totaled 859,246 net tons valued at $7,282,195, according to reports received from producers by the Bureau of Mines, United States Department of the Interior. When compared with 1944, this represented a decrease of 2 percent in output but an increase of 3 percent in value due to increased manufacturing costs. Output of screenings or breeze in 1945 totaled 99,091 net tons, a slight decline from the 1944 production. The rate of production in 1945 did not change from the preceding year and was 77 percent of capacity. Of the 2,826 retorts reported in existence at the end of the year, 2,199 were in active operation, reductions of 158 and 222 retorts, respectively, from the numbers reported in 1944. The decline in number of retorts in operation in December, 1945, was due to the substitution of water gas for coal gas at one plant, propane vapor at one plant, propane-air gas at two plants, and natural gas at one plant.

The increase in maximum prices applicable to sales of bituminous coal shipped from mines in 1945 resulted in a sharp gain in the costs of bituminous coal delivered to gas plants. The average cost per ton of coal charged into retorts advanced 22 cents over 1944 and reached $6.82. Government controls over the distribution of "special purpose coal" used in the manufacture of gas in gas retorts remained under the jurisdication of the Solid Fuels Administration for War during 1945. Coal-gas plants were included in the grouping of industrial consumers of bituminous coal that were assured of first preference in the distribution of bituminous coal under provisions of SFAW Regulation No. 27 issued March 14, 1945.

According to returns received from producers, consumption of gashouse coke at producing plants totaled 393,283 tons and was equivalent to 45 percent of the total quantity sold or used by producers. Of the 393,283 tons used by producers, nearly half, or 47 percent was consumed in heating benches, 37 percent in adjacent water-gas generators, and the remainder, or 16 percent, was used for making producer gas, raising steam, and heating buildings. The continued shortages of other solid fuels in certain areas in 1945 directed attention to available supplies of gashouse coke. Sales for domestic heating increased slightly over 1944 totaling 431,361 tons and were equivalent to 90 percent of the total quantity of gashouse coke sold by producers. Sales for use in the manufacture of water gas and other industrial purposes were not extensive and accounted for the balance of 46,603 tons. Stocks of coke and breeze at plants on December 31, 1945 showed only minor changes when compared with the 1944 figures and were 68,919 and 28,613 tons, respectively.

Prepared by M. M. Otero and J. A. De Carlo, Anthracite and Coke Section, J.A. Corgan, Chief. Coal Economics Division, Economics and Statistics Branch.

TABLE 1. - SALIENT STATISTICS OF THE COAL-GAS INDUSTRY IN THE UNITED STATES IN 1945

		Horizontal retorts	Vertical retorts and gas ovens	Total
Coke produced:				
Quantity	net tons	362,381	496,865	859,246
Value		$2,916,316	$4,365,879	$7,282,195
Screenings or breeze produced:				
Quantity	net tons	26,790	72,301	99,091
Coal charged into retorts:				
Quantity	do	575,379	830,732	1,406,111
Value		$3,921,292	$5,667,358	$9,588,650
Average per ton		$6.82	$6.82	$6.82
Average yield of coal charged:				
Coke		62.98%	59.81%	61.11%
Breeze (at plants actually recovering)		7.55%	9.03%	8.58%
Retorts:				
In existence		2,237	a/589	2,826
In operation, end of year		1,616	a/583	2,199
Annual coal capacity	net tons	865,800	950,500	1,816,300
Coke used by producer -				
For manufacture of water gas:				
Quantity	do	81,830	63,028	144,858
Value		$684,366	$541,015	$1,225,381
For manufacture of producer gas:				
Quantity	net tons	- - -	36,114	36,114
Value		- - -	$201,988	$201,988
For bench fuel:				
Quantity	net tons	96,763	86,828	183,591
Value		$720,657	$726,270	$1,446,927
For other purposes:				
Quantity	net tons	20,006	8,714	28,720
Value		$132,410	$68,414	$200,824
Coke sold to other consumers -				
For manufacture of water gas:				
Quantity	net tons	10,454	13,547	24,001
Value		$89,939	$111,642	$201,581
For domestic use:				
Quantity	net tons	150,002	281,359	431,361
Value		$1,282,872	$2,652,971	$3,935,843
For other industrial use:				
Quantity	net tons	8,632	13,970	22,602
Value		$49,703	$121,027	$170,730
Stocks on December 31, 1945:				
Coke	net tons	23,121	45,798	68,919
Breeze	do	8,797	19,816	28,613
Byproducts obtained:				
Tar:				
Production	gallons	7,267,925	12,568,915	19,836,840
Sales:				
For refining:				
Quantity	do	3,695,718	8,087,562	11,783,280
Value		$172,117	$376,786	$548,903
For fuel:				
Quantity	gallons	- - -	- - -	- - -
Value		- - -	- - -	- - -
For other purposes:				
Quantity	gallons	4,568,041	4,488,439	9,056,480
Value		$169,584	$236,847	$406,431

TABLE 1. - SALIENT STATISTICS OF THE COAL-GAS INDUSTRY IN THE UNITED STATES IN 1945
(Continued)

		Horizontal retorts	Vertical retorts and gas ovens	Total
Byproducts obtained - Continued				
Tar - Continued				
Stocks on December 31, 1945	gallons	1,990,841	1,951,566	3,942,407
Per ton of coal charged	do	12.63	15.13	14.11
Ammonia liquor (NH_3 content):				
Production	pounds	- - -	1,230,307	1,230,307
Sales	do	- - -	1,227,612	1,227,612
Value		- - -	$28,815	$28,815
Stocks on December 31, 1945	pounds	- - -	119,023	119,023
Per ton of coal charged	do	- - -	3.29	3.29

a/ Includes 15 gas ovens.

PRODUCTION AND SALES OF COKE, TAR, AND AMMONIA BY STATES

Production of gashouse coke in 1945 was reported by 86 producers located in 26 States compared with 90 producers in 27 States in 1944. The State of Maryland was removed from the list of producing States as the Eastern Shore Public Service Company reported that its Cambridge, Maryland, coal-gas plant was converted to the distribution of liquid propane gas. As for many years in the past, Massachusetts was the leading producer of gashouse coke, followed in order by Wisconsin, New York, Pennsylvania, and Michigan. The Massachusetts output comprised 29 percent of the total output, that of Wisconsin 18 percent and the output of New York, Pennsylvania, and Michigan taken together, 20 percent. The yield of coke from coal ranged from 70 percent in Georgia to 51 in New Jersey and averaged 61 percent for the entire industry.

Notwithstanding a slight decline in quantity of coal carbonized in 1945, production of crude coal tar increased 117,707 gallons over 1944 and totaled 19,836,840 gallons. This gain was due to the increase in yield of tar per ton of coal carbonized which rose from 13 gallons in 1944 to 14 gallons. Information was obtained for the first time in 1945 on the sales of crude tar by producers for refining, for use as fuel, and for other purposes. Although all producers were not able to give precise information on the ultimate use of the tar sold, sufficient data was obtained to show the principal markets for coal-gas-retort tar. Two plants reported "topping" operations for the manufacture of tar acid oil and road tar in 1945. Of total sales of crude tar more than half, or 59 percent, was sold to tar refineries. Allocation control on deliveries and uses of crude coal tar was revoked by the War Production Board on August 31, 1945. However, individual plant ceiling prices on sales of crude tar in effect during 1944 were continued throughout 1945 under provisions of Maximum Price Regulation 447, issued by the Office of Price Administration on August 14, 1943 and amended November 16, 1943.

Ammonia liquor was produced at 4 plants, and production in terms of ammonia content totaled 1,230,307 pounds. Sales of ammonia liquor followed production closely and totaled 1,227,612 pounds. Production of other byproducts was insignificant, and data cannot be shown without revealing operations of individual plants.

A directory showing names and addresses of gashouse producers who reported production to the Bureau of Mines in 1945 can be obtained on request to the Anthracite and Coke Section, Coal Economics Division, Bureau of Mines, Washington 25, D.C.

TABLE 2. - NUMBER OF RETORTS, COAL CHARGED, COKE PRODUCED, VALUE, AND STOCKS IN 1945, BY STATES

State	Active plants	Retorts		Coal charged (net tons)	Yield of coke from coal (percent)	Coke produced (net tons)	Value of coke		Coke stocks December 31, 1945 (net tons)
		In existence	In operation end of year				Total	Per ton	
Alabama and Kentucky	3	42	24	7,641	56.93	4,350	$16,465	$3.79	562
Colorado and North Dakota	4	72	56	25,333	59.86	15,164	133,178	8.78	2,933
Connecticut, Maine, Rhode Island, and Vermont	6	a/113	a/95	138,773	57.93	80,388	763,609	9.50	9,395
Georgia	3	60	54	13,281	70.28	10.037	61,042	6.08	1,404
Illinois, Indiana, and Iowa	4	63	49	31,460	61.23	19,264	202,087	10.49	1,325
Massachusetts	9	428	394	438,138	57.71	252,829	2,322,471	9.19	30,092
Michigan	17	354	214	72,572	66.60	48,334	364,188	7.53	2,055
Minnesota	4	102	78	23,393	60.24	14,092	148,125	10.51	1,519
New Jersey, New York, and Ohio .	5	284	256	119,848	64.36	77,139	731,881	9.49	6,675
North Carolina	8	264	264	76,649	62.66	48,027	259,038	5.39	2,815
Pennsylvania	5	171	144	90,859	65.17	59,213	557,956	9.42	420
South Carolina	3	126	126	35,050	60.50	21,207	112,475	5.30	200
Tennessee	3	270	54	19,418	59.22	11,499	59,290	5.16	1,213
Virginia and West Virginia	3	56	18	38,178	62.74	23,954	163,142	6.81	1,780
Washington	3	162	162	32,320	63.66	20,575	188,658	9.17	2,721
Wisconsin	6	259	211	242,198	63.24	153,174	1,198,590	7.83	3,810
	86	2,826	2,199	1,406,111	61.11	859,246	7,282,195	8.48	68,919

a/ Includes 15 gas ovens.

TABLE 3. - COAL CHARGED AND COKE PRODUCED IN THE UNITED STATES, BY GEOGRAPHICAL REGIONS, 1943-1945, IN NET TONS

Region	1943		1944		1945	
	Coal charged	Coke produced	Coal charged	Coke produced	Coal charged	Coke produced
New England	534,591	305,561	546,799	318,434	576,911	333,217
Middle Atlantic	206,343	136,855	208,639	135,460	199,972	130,028
Michigan	90,894	60,151	86,139	57,536	72,572	48,334
Illinois-Indiana a/	40,659	24,532	42,612	24,910	42,195	25,588
Lake Dock	275,719	157,892	295,818	179,805	287,619	180,349
Southeast	254,273	156,744	230,987	140,956	191,217	119,074
Southwest, Mountain, and Pacific	33,737	20,369	35,488	21,531	35,625	22,656
	1,436,216	862,104	1,446,482	878,632	1,406,111	859,246

a/ Includes Ohio and Missouri Valley Regions.

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UNITED STATES DEPARTMENT OF THE INTERIOR
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M. M. S. No. 1399

PRODUCTION OF PEAT IN THE UNITED STATES IN 1945

The production of peat in the United States in 1945 totaled 78,272 short tons, valued at $600,287, according to reports received by the Bureau of Mines, U. S. Department of the Interior, a substantial increase over the 1944 output of 57,987 tons, valued at $524,521.

The average value of peat per ton in 1945 was $7.67, a decrease of 15 percent from the 1944 value of $9.05. Production and value for 1940-45 are shown in the following table:

Year	Short tons	Value		Year	Short tons	Value	
		Total	Per ton			Total	Per ton
1940---	70,097	$516,865	$7.37	1943-	60,002	$491,460	$8.19
1941---	86,503	657,556	7.60	1944-	57,987	524,521	9.05
1942---	71,500	516,887	7.23	1945-	78,272	600,287	7.67

Florida ranked highest in peat production in 1945, followed, in order of output, by New Jersey, Illinois, Michigan, California, New York, Minnesota, Pennsylvania, Connecticut, Washington, Iowa, Wisconsin, Georgia, Ohio, Maine, Texas, Colorado, Massachusetts, and New Hampshire. In 1944, New Jersey was the highest producing State with Illinois, Michigan, and Pennsylvania next in order named, the position of the other States, with the exception of California and New Hampshire, varying also from that of 1944.

Reed or sedge peat, produced in 11 States, comprised about 53 percent of the total production; peat humus, produced in 13 States, 33 percent; and moss peat and other, produced in 7 States, 14 percent.

Most of the peat sold in the United States is used for soil improvement. Of the sales reported in 1945, 64 percent was sold for soil improvement; 24 percent, for use in mixed fertilizers; and 12 percent, for other uses, including fuel, for the first time in recent years, litter for barns and poultry yards, and as a packing for bulbs, fruits, vegetables and fragile articles. Although peat is used extensively in some European countries as fuel, it has not been used for fuel purposes in this country on a commercial scale because of plentiful supplies of higher-grade fuels. The quantity reported sold for this purpose in 1945 is negligible.

A directory listing names and addresses of operators who reported 1945 production or sales to the Bureau of Mines has been prepared and will be furnished upon request to the Anthracite and Coke Section, U. S. Bureau of Mines, Washington 25, D. C.

Prepared by Golden V. Chiriaco, Anthracite and Coke Section, J. A. Corgan, Chief. Coal Economics Division, Economics and Statistics Branch.

P.N. 131306

TABLE 4. - COKE USED BY PRODUCER IN THE UNITED STATES AND SOLD IN 1945, BY STATES

State	Used by producer					
	To make producer or water gas		For bench fuel		For other purposes	
	Net tons	Value	Net tons	Value	Net tons	Value
Alabama and Kentucky	(a)	(a)	1,386	$4,852	479	$1,677
Colorado and North Dakota	(a)	(a)	4,555	38,849	1,063	9,032
Connecticut, Maine, Rhode Island, and Vermont	17,545	$157,433	18,993	178,945	481	4,547
Georgia	(a)	(a)	2,651	15,603	(a)	(a)
Illinois, Indiana, and Iowa	(a)	(a)	1,212	7,321	501	2,047
Massachusetts	48,412	415,531	60,092	516,787	5,813	53,028
Michigan	4,713	31,938	12,382	89,335	2,754	19,581
Minnesota	(a)	(a)	3,585	36,506	1,326	13,552
New Jersey, New York, and Ohio	(a)	(a)	20,838	149,361	(a)	(a)
North Carolina	9,240	47,982	12,862	71,456	5,114	25,649
Pennsylvania	42,343	412,970	14,111	130,018	524	2,195
South Carolina	6,419	37,006	6,952	36,311	(a)	(a)
Tennessee	4,286	22,495	4,232	21,413	(a)	(a)
Virginia and West Virginia	(a)	(a)	7,682	47,508	4,580	28,320
Washington	(a)	(a)	8,138	64,185	(a)	(a)
Wisconsin	(a)	(a)	3,920	38,477	1,253	12,324
Undistributed	48,014	302,014	- - -	- - -	4,832	28,872
	180,972	1,427,369	183,591	1,446,927	28,720	200,824

State	Sold					
	For manufacture of water gas		For domestic use		For other industrial use	
	Net tons	Value	Net tons	Value	Net tons	Value
Alabama and Kentucky	- - -	- - -	2,120	$8,588	- - -	- - -
Colorado and North Dakota	- - -	- - -	7,550	68,793	(a)	(a)
Connecticut, Maine, Rhode Island, and Vermont	(a)	(a)	37,080	364,218	(a)	(a)
Georgia	- - -	- - -	3,550	22,552	- - -	- - -
Illinois, Indiana, and Iowa	- - -	- - -	14,049	150,258	- - -	- - -
Massachusetts	16,020	$128,627	109,125	1,086,913	(a)	(a)
Michigan	- - -	- - -	30,758	242,356	(a)	(a)
Minnesota	(a)	(a)	9,728	103,665	- - -	- - -
New Jersey, New York, and Ohio	(a)	(a)	53,186	574,684	(a)	(a)
North Carolina	- - -	- - -	18,829	102,747	2,118	$11,252
Pennsylvania	- - -	- - -	2,210	12,943	- - -	- - -
South Carolina	- - -	- - -	(a)	(a)	(a)	(a)
Tennessee	- - -	- - -	(a)	(a)	(a)	(a)
Virginia and West Virginia	(a)	(a)	8,404	65,533	(a)	(a)
Washington	- - -	- - -	7,975	86,413	- - -	- - -
Wisconsin	- - -	- - -	117,448	999,613	(a)	(a)
Undistributed	7,981	72,954	9,349	46,567	20,484	159,478
	24,001	201,581	431,361	3,935,843	22,602	170,730

a/ Included under "Undistributed."

TABLE 5. - TAR OBTAINED AND SOLD IN 1945 AND STOCKS ON DECEMBER 31, 1945, AT COAL-GAS PLANTS IN THE UNITED STATES

State	Produced (gallons)		Sold			Stocks December 31, 1945 (gallons)
	Total	Per ton of coal charged	Gallons	Value		
				Total	Per gallon	
Alabama and Kentucky	80,996	10.60	63,159	$2,989	$0.047	60,530
Colorado and North Dakota	466,082	18.40	442,919	15,765	.035	36,879
Connecticut, Maine, Rhode Island, and Vermont	2,025,445	14.60	2,494,496	110,616	.044	306,212
Georgia	178,245	12.48	52,990	2,137	.040	167,436
Illinois, Indiana, and Iowa	397,426	12.63	441,785	21,927	.050	26,484
Massachusetts	6,549,658	14.95	5,941,955	312,380	.053	1,595,257
Michigan	1,036,983	14.29	1,057,832	35,294	.033	315,836
Minnesota	362,647	15.50	353,636	14,617	.041	72,104
New Jersey, New York, and Ohio	1,439,720	12.01	1,464,520	76,189	.052	139,800
North Carolina	1,217,627	15.89	1,951,656	58,717	.030	514,668
Pennsylvania	940,313	10.35	937,250	51,305	.055	206,354
South Carolina	470,752	13.43	957,364	29,391	.031	67,175
Tennessee	337,809	17.40	370,737	15,996	.043	32,174
Virginia and West Virginia	594,209	15.56	595,955	31,515	.053	71,265
Washington	270,372	8.37	261,481	18,421	.070	110,411
Wisconsin	3,468,556	14.32	3,446,025	158,075	.046	219,822
	19,836,840	14.11	20,839,760	955,334	.046	3,942,407

TABLE 6. - AMMONIA LIQUOR (NH_3 CONTENT) OBTAINED AND SOLD IN 1945 AND STOCKS ON DECEMBER 31, 1945, AT COAL-GAS PLANTS IN THE UNITED STATES

State	Produced (pounds)		Sold			Stocks December 31, 1945 (pounds)
	Total	Per ton of coal charged	Pounds	Value		
				Total	Per pound	
Massachusetts, New York, and Wisconsin	1,230,307	a/3.29	1,227,612	$28,815	$0.023	119,023

a/ Calculated on coal charged at plants actually recovering.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

UNIVERSITY

For release May 20, 1946.

MINERAL MARKET REPORT
M.M.S. NO. 1400

RECOVERY OF TIN AT DETINNERS' PLANTS SHOWS FURTHER DECLINE IN 1945

The total recovery of tin at detinning plants, as metal and in chemical compounds, declined 3 percent in 1945 from that in the preceding year, according to the Bureau of Mines, United States Department of the Interior. The continued scarcity of material for detinning, especially old tin cans, resulted in a recovery of only 3,981 short tons of tin by these plants during the year, compared with 4,101 tons in 1944 and 4,577 tons in 1943. The net loss was registered in spite of a gain in the quantity of new tin plate clippings available for detinning, because of the lighter coating of tin on the material treated and the substantial reduction in the quantity of old cans collected.

The amount of tin salvaged from new tin plate clippings increased 10 percent from 2,654 tons in 1944 to 2,911 tons in 1945. However, the tin recovered from old tin coated containers fell 26 percent, from 1,447 tons in 1944 to 1,070 tons in 1945. Only 114,311 tons of old cans were made available to detinners during 1945, compared to 146,976 tons in 1944, while the increased rate of tin plate production during the latter half of the year resulted in the treatment of 257,545 long tons of tin plate clippings in 1945, a gain of 13 percent over the 227,220 tons treated in the preceding year.

The War Production Board on four different occasions during 1945 issued amendments and directions to Conservation Order M-325, striving to increase the tonnage of used cans and tin plate clippings being shipped to detinners. None of these measures was effective to any extent, however, because they failed to reach the housewives, who were responsible for saving and preparing old cans. In general, those homemakers who were still preparing cans for collection stopped doing so after V-J Day, and collection systems in the major cities broke down almost immediately. In addition, the figures reported by the War Department covering shipments of old cans to detinners from Army posts, camps, and stations revealed a decided reduction from the 1944 level, as a result of the decline of personnel in camps in this country. Only 28,223 long tons of prepared cans were sold by the War Department to detinners in 1945, compared with 40,000 tons in 1944.

Of the 3,981 short tons of tin recovered, 3,527 tons were recovered as metal in the form of pigs and anodes, while 454 tons were recovered in the form of tin compounds. These figures are comparable to the 1944 recovery of 3,751 tons as metal and 350 tons in compounds.

Prepared by Herbert L. Cullen, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

(over)

Secondary tin recovered at detinning plants in the United States, 1944-45

		1944	1945
Scrap treated:			
Clean tin plate...........................	long tons	227,220	257,545
Old tin-coated containers.................	long tons	146,976	114,311
		374,196	371,856
Tin recovered from new tin-plate clippings...	short tons	2,654	2,911
Tin recovered from old tin-coated containers.	short tons	1,447	1,070
		4,101	3,981
Tin recovered as metal......................	short tons	1/ 3,751	1/ 3,527
Tin recovered in compounds..................	short tons	2/ 350	2/ 454
		4,101	3,981
Weight of tin compounds produced............	short tons	774	933
Average quantity of tin recovered per long ton of clean tin-plate scrap used............................	pounds ...	23.36	22.61
Average quantity of tin recovered per long ton of old tin-coated containers used........................	pounds ...	19.68	18.73

1/ Includes a small tonnage of pig tin averaging less than 95 percent tin content and, consequently, subject to further refining or alloying.

2/ Represents the total recovery of tin in compounds reported by the detinners as an industry. Some of this material was reduced to metallic tin at the Texas City tin smelter and some of it sold for use in the form produced. In calculating total domestic tin production, only the tin recovered as metal at detinning plants should be used.

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MINERAL INDUSTRY SURVEYS
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

For release May 28, 1946

MINERAL MARKET REPORTS
M.M.S. No. 1401

TITANIUM INDUSTRY IN 1945

Titanium production and consumption in the United States in 1945 reached world-record highs which, nonetheless, are expected to be surpassed in 1946, according to the Bureau of Mines, United States Department of the Interior. Imports of titanium concentrates were revived to more normal levels, permitting stocks to be accumulated. Prices were unchanged.

Production. - Output of ilmenite in 1945 exceeded 300,000 tons, an 11-percent gain over 1944. New York was the principal producer, but smaller quantities came from Florida, North Carolina, and Virginia. Rutile output, which advanced 4 percent, was from Florida and Virginia.

Foreign trade. - As a result of better trade access to India, imports of ilmenite in 1945 were double those in 1944. In addition to India (179,693 short tons), the ilmenite entries were from Australia (2,989), Brazil (10,508), Canada (6,981), and Norway (9,895). Rutile imports in 1945 were from Australia (10,368 short tons) and Brazil (234). These trade data, from the Department of Commerce, are modified

Salient statistics for ilmenite in the United States, 1944-45, in short tons

	1944		1945	
	Gross weight	TiO_2 content	Gross weight	TiO_2 content
Production..........	278,610	-	308,516	-
Mine shipments......	280,791	128,095	308,518	141,852
Imports.............	108,948	-	210,066	-
Consumption.........	360,941	175,475	381,178	187,580
Stocks at year end..	167,686	75,852	272,598	135,760

Salient statistics for rutile in the United States, 1944-45, in short tons

	1944		1945	
	Gross weight	TiO_2 content	Gross weight	TiO_2 content
Production..........	6,922	-	7,179	-
Mine shipments......	6,770	6,312	6,837	6,414
Imports	10,019	-	10,602	-
Consumption.........	14,813	13,837	9,876	9,226
Stocks at year end..	7,004	6,536	10,130	9,419

Prepared by Allan F. Matthews and R. Louise Bryson under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

by the Bureau of Mines to include the titanium minerals imported in Australian "zirconium ore". Exports of titanium concentrates (probably rutile) totalled 609 short tons and went principally to Canada.

Consumption. - Peak consumption of ilmenite in 1945 would have been even greater except for the limited capacity of plants manufacturing titanium dioxide pigments, which continue in strong demand. A 20-percent expansion of those facilities is under way. The curtailment of shipbuilding and tankbuilding in the latter half of 1945 reduced the demand for welding rods, the principal outlet for rutile.

Consumption of ilmenite and rutile in the United States, 1944-45, by products
in short tons

	Ilmenite		Rutile	
	Gross wt.	Est. TiO_2 cont.	Gross wt.	Est. TiO_2 cont.
1944				
Pigments (mfg. titanium dioxide)1/	349,505	170,518	----	----
Welding-rod coatings 1/	148	82	10,747	10,103
Alloys and carbide	10,174	4,401	4,014	3,683
Ceramics	----	----	20	20
Miscellaneous2/	1,114	474	32	31
Total consumption	360,941	175,475	14,813	13,837
1945				
Pigments (mfg. titanium dioxide)1/	371,691	183,195	----	----
Welding-rod coatings1/	115	62	7,813	7,344
Alloys and carbide	8,611	3,976	2,008	1,832
Ceramics	----	----	34	30
Miscellaneous2/	761	347	21	20
Total consumption	381,178	187,580	9,876	9,226

1/ "Pigments" include all manufactured titanium dioxide, consumption of which in welding-rod coatings was 3,900 tons in 1944 and 2,258 tons in 1945.

2/ Consists of ilmenite used as a steel flux and rutile used in lamp-electrode coatings and as a steel deoxidizer.

Stocks. - Ilmenite and rutile stocks increased 63 and 45 percent respectively during 1945, the former in anticipation of greater consumption. Of rutile inventories, 38 percent was acquired for the Government stockpile.

Prices. - Ilmenite and rutile prices, unchanged in 1945, were fixed by the Office of Price Administration February 22, 1943 (Regulation 327), at levels prevailing in March 1942. Ilmenite, 60 percent TiO_2, was nominally quoted at $28-$30 a long ton, f.o.b. Atlantic seaboard, and rutile, 94 percent TiO_2, at 8-10 cents a pound.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

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UNIVERSITY OF ILLINOIS

FOR RELEASE MAY 31, 1946.

MINERAL MARKET REPORTS
M. M. S. NO. 1402.

PLATINUM AND ALLIED METALS IN 1945

FINAL ANNUAL FIGURES - PLEASE FILE FOR REFERENCE UNTIL PRINTED REPORT IS AVAILABLE

An outstanding feature of the platinum industry in 1945 was the revocation by War Production Board on August 20 of Order M-162, which since October 31, 1942, had prohibited the use of platinum and platinum alloys in new jewelry. This was followed by a demand for platinum by the jewelry trade which quickly assumed boom proportions, and as a result, sufficient platinum was not available. Restrictions on use of rhodium and osmium were also removed on August 20. Limitations on use of iridium and palladium had been removed previously. During the war, ruthenium was the only metal of the platinum group that was not subjected to usage control at any time.

Although refining of platinum was slightly more than in 1944, it was insufficient for requirements in 1945, which were 22 percent greater than in the previous year. The deficiency was met by release of Government stocks, by imports, and by withdrawals from refiners' and dealers' inventories. The gain in sales of platinum in 1945 over 1944 was due chiefly to larger requirements by the chemical industry and to the boom demand by the jewelry trade.

Refining of palladium was 52 percent greater than in 1944, but it again was insufficient for requirements, which established a new record in 1945. The deficit in refining was largely met by imports. With the removal of the restriction on use of platinum in jewelry, there was a decided swing from palladium to platinum for fine jewelry; nevertheless, the jewelry trade continued to absorb substantial quantities of palladium.

Both refining and sales of the other platinum metals - iridium, osmium, rhodium, and ruthenium - were comparatively small in 1945; however, both refining and sales were greater than in 1944. Nevertheless, sales of each metal were in excess of refining. The deficit was met by imports.

Imports of platinum metals into the United States established a new high in 1945; they were 6 percent greater than in the previous record year 1943.

Prepared by Hubert W. Davis and Gertrude N. Greenspoon under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

PRODUCTION

Refining of new platinum metals in 1945 was 34 percent more than in 1944. Of the new metals recovered in 1945, 84 percent was chiefly from concentrates from Canada and crude from Colombia, 14 percent was from domestic crude (chiefly from Alaska), and 2 percent was a byproduct of domestic gold and copper ores.

New platinum metals recovered by refiners in the United States in 1945, by sources, in troy ounces

	Platinum	Palladium	Iridium	Osmium	Rhodium	Ruthenium	Total
Domestic from –							
Crude platinum....	22,923	126	4,453	845	632	118	29,097
Gold and copper refining.........	1,068	3,396	8	...	20	3	4,495
	23,991	3,522	4,461	845	652	121	33,592
Foreign from –							
Crude platinum.... Nickel and copper refining.........	138,041	25,127	1,322	...	4,079	2,345	170,914
Total recovery:							
1945	162,032	28,649	5,783	845	4,731	2,466	204,506
1944	132,452	10,966	4,406	463	3,256	1,502	153,045

Secondary platinum metals recovered in 1945 comprised 58,942 ounces of platinum, 32,968 ounces of palladium, 812 ounces of iridium, 586 ounces of osmium, 1,719 ounces of rhodium, and 1,095 ounces of ruthenium - a total of 96,122 ounces. Comparable figures for 1944, which have been revised, are as follows: Platinum, 85,942 ounces; palladium, 29,684 ounces; iridium, 965 ounces; osmium, 314 ounces; rhodium, 957 ounces; and ruthenium, 1,534 ounces - a total of 119,396 ounces. Substantial quantities of worn-out catalysts, spinnerets, laboratory ware, and other products are returned by consumers to refiners for refining. The refined platinum metals recovered from these products (or their equivalent in refined metals) are returned to the consumers. The platinum metals so recovered are not included in the figures of secondary metals.

FOREIGN TRADE

(Figures on imports and exports from records of Department of Commerce)

Imports. - Imports of platinum metals into the United States established a new high in 1945; they were 8 percent more than in 1944 and 6 percent greater than in the previous record year 1943. The principal sources of imported platinum metals in 1945 were Canada (266,534 ounces), U. S. S. R. (77,741 ounces), Colombia (31,786 ounces), and United Kingdom (7,149 ounces).

Platinum metals (unmanufactured) imported for consumption in the United States, 1944-45

Material	1944		1945 1/	
	Troy ounces	Value	Troy ounces	Value
Unrefined materials: 2/				
Ores and concentrates of platinum metals	101,747	$2,993,639	138,089	$3,955,645
Grains and nuggets (including crude, dust and residues)	35,345	1,014,169	31,875	978,141
Sponge and scrap	65	1,690	2,008	63,903
Osmiridium	35	2,593	57	4,261
	137,192	4,012,091	172,029	5,001,950
Refined metals:				
Platinum	70,150	2,631,546	72,849	2,688,613
Palladium	137,496	3,116,904	118,270	2,597,815
Iridium	3,075	597,159	6,197	504,666
Osmium	1,345	71,654	925	43,669
Rhodium	504	47,044	3,975	452,873
Ruthenium	6,450	197,890	9,053	296,804
	219,020	6,662,197	211,269	6,584,440
	356,212	10,674,288	383,298	11,586,390

1/ Preliminary and subject to revision.

2/ The concentrates and crude imported from Canada contain platinum, palladium, iridium, rhodium, and ruthenium, and the crude sponge imported from Canada contains platinum and palladium. Although the U. S. Department of Commerce records "platinum content" for these entries, the Bureau of Mines has determined from the importers of these materials that most of the entries reflect the platinum metals content. The Bureau of Mines has also determined from the largest importer of crude platinum from Colombia that the entries for his material, recorded as "platinum content" by the U. S. Department of Commerce, represent the gross weight of the material.

Exports. - Exports of platinum were 7,781 ounces in 1945 (1,243 ounces in 1944), and those of the other platinum-group metals were 10,951 ounces (5,014 ounces in 1944).

SALES

Sales of platinum metals to consumers in the United States established a new high in 1945; they were 550,045 ounces, a gain of 22 percent over 1944 and 8 percent greater than in the previous record year 1943.

Platinum, the most widely used metal of the group, constituted 336,851 ounces (61 percent) of the platinum metals sold to domestic consumers in 1945. By taking 34 percent of the total platinum sold in 1945, the chemical industry was the chief buyer, displacing the electrical industry, which ranked first in 1943 and 1944. Sales of platinum to the chemical industry were 90 percent greater than in 1944. The electrical industry was a close second as a buyer of platinum in 1945, but its purchases were 40 percent less than in 1944; nevertheless, it accounted for 107,260 ounces (32 percent) of the total sold. Sales of platinum for dental and medical uses declined 11 percent from 1944 but accounted for 30,871 ounces (9 percent) of the total sold. Because of the ban on the sale and use of platinum in the manufacture of jewelry, except for repair work, only 424 ounces were so sold in 1944. On August 20, 1945, the War Production Board revoked Order M-162, which since October 31, 1942, had prohibited the sale and use of platinum and platinum alloys in new jewelry. Removal of this restriction was followed by a demand for platinum by the jewelry trade which quickly assumed boom proportions. Accordingly, the jewelry industry accounted for 81,305 ounces (24 percent) of the total platinum sold in 1945. More platinum was sold to the jewelry trade during the period August 20 to December 31, 1945, than during any entire previous year.

Palladium, the second most extensively used metal of the group, accounted for 185,232 ounces (34 percent) of the total platinum metals sold to domestic consumers in 1945. Sales of palladium established a new high in 1945. The electrical industry displaced the jewelry industry as the chief outlet for palladium in 1945 by taking 69,300 ounces (37 percent) of the total palladium sold. Sales of palladium to the electrical industry established a new record in 1945 and were 64 percent greater than in 1944. Sales of palladium to the jewelry trade accounted for 56,578 ounces (31 percent) of the total palladium sold in 1945; they were about the same as in 1944. With the removal of the restriction on the use of platinum in jewelry, there was a decided swing from palladium to platinum for fine jewelry. The dental trade continued to be the third largest outlet for palladium, taking 42,259 ounces (23 percent) of the total sold in 1945. Sales of palladium to the chemical industry were 7 percent less than in 1944; it accounted for only 8,988 ounces (5 percent) of the total sold in 1945. Appreciable quantities of palladium were sold to the pen and pencil trade for nibs and other parts in 1945.

Sales of the other platinum metals - iridium, osmium, rhodium, and ruthenium - were comparatively small; they made up 5 percent (27,962 ounces) of the total for the group in 1945. Iridium and ruthenium were the most extensively used metals of this group, followed in order by rhodium and osmium. Sales of iridium and rhodium were each about 50 percent greater than in 1944, but those of osmium and ruthenium were only 15 and 2 percent, respectively, more.

The following table shows sales of platinum metals by refiners, importers, dealers, and Office of Metals Reserve to consumers in the United States in 1944 and 1945.

Platinum metals sold to consuming industries in the United States in 1944 and 1945, in troy ounces

Industry	Platinum	Palladium	Iridium, osmium, rhodium, and ruthenium	Total
1944				
Chemical	60,936	9,673	3,944	74,553
Electrical	178,038	42,322	11,650	232,010
Dental and medical	34,783	36,377	177	71,337
Jewelry and decorative	424	56,558	2,847	59,829
Miscellaneous and undistributed	1,467	9,409	3,599	14,475
	275,648	154,339	22,217	452,204
1945				
Chemical	115,816	8,988	6,182	130,986
Electrical	107,260	69,300	5,572	182,132
Dental and medical	30,871	42,259	900	74,030
Jewelry and decorative	81,305	56,578	10,026	147,909
Miscellaneous and undistributed	1,599	8,107	5,282	14,988
	336,851	185,232	27,962	550,045

STOCKS

Stocks of platinum metals in all forms held by refiners, importers, and dealers were 301,972 ounces as of December 31, 1945, a decrease of 6 percent from 1944.

Stocks of platinum metals held by refiners, dealers, importers, and Office of Metals Reserve in the United States, Dec. 31, 1944 and 1945, in troy ounces

Year	Refiners, dealers, and importers			Office of Metals Reserve		
	Refined, unrefined, and in process of refining			Refined metals 1/		
	Platinum	Palladium	Iridium, osmium, rhodium, and ruthenium	Platinum	Palladium	Iridium, osmium, rhodium, and ruthenium
1944	159,173	123,448	39,866	83,799	35	3,248
1945	138,839	119,757	43,376	59,638	72	3,542

1/ In addition, there were 15,251 ounces of crude platinum in process on December 31, 1945.

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UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
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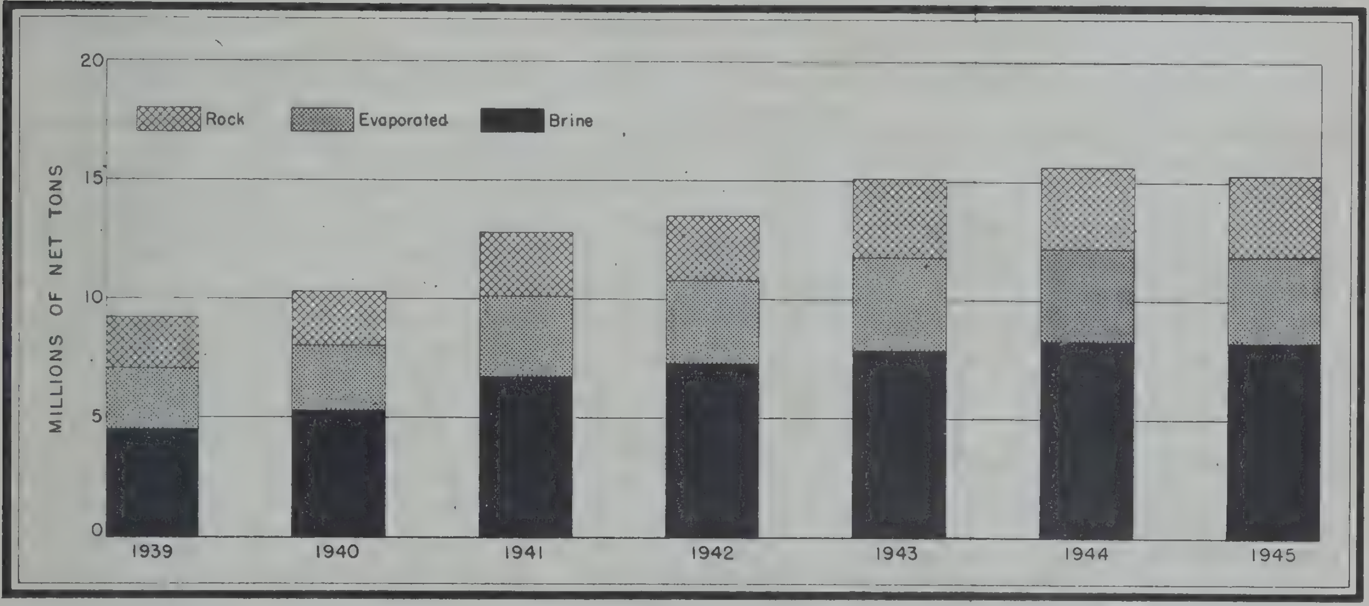
For release June 6, 1946

MINERAL MARKET REPORT
MMS No. 1403

SALT PRODUCTION IN 1945 DOWN 2 PERCENT

The Bureau of Mines' annual salt canvass, just completed, discloses that 15,394,141 short tons of salt valued at $46,069,064 were sold or used by producers in 1945 compared with 15,717,171 tons valued at $45,989,264 in 1944. Although total salt declined 2 percent from the peak of 1944, it was higher than in any other preceding year.

Evaporated salt output decreased 8 percent and salt content of brine declined 1 percent but rock salt increased 2 percent.



Trends in the quantity of rock salt, evaporated salt, and brine (in terms of salt content) sold or used by producers in the United States, 1939-45.

Prepared by Florence E. Harris and E. M. Tucker, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division; Economics and Statistics Branch.

Salt production in the United States, 1935-39 (average) and 1943-45, in short tons

	1935-39 (average)	1943	1944	1945
Sold or used by producers:				
Manufactured (evaporated)..	2,507,374	3,993,899	3,942,621	3,630,729
In brine.................	4,205,587	7,961,115	8,326,312	8,257,672
Rock salt................	1,947,254	3,259,138	3,448,238	3,505,740
Total quantity..........	8,660,215	15,214,152	15,717,171	15,394,141
Total value 1/..........	$23,405,612	$43,878,266	$45,989,264	$46,069,064
Average value 1/........	$2.70	$2.88	$2.93	$2.99

1/ Values are f.o.b. mine or refinery and do not include cost of cooperage or containers.

Most of the salt works that operated in 1945 ran at or near maximum capacity. In general greater productivity per man was reported for the war years.

During 1945, salt was produced in 74 plants of 49 companies compared with 81 plants of 53 companies in 1944. Of the 1945 output 209,821 short tons of evaporated and rock salt were iodized. This represents 3 percent of dry salt produced.

Production by States. - Thirteen States and Puerto Rico contributed to the total in 1945, Michigan still being in the lead with 28 percent, followed by New York with 19 percent, Ohio with 18 percent, Louisiana with 12 percent, Texas 7 percent, Kansas 6 percent, and 10 percent was divided among the other producing States.

Salt sold or used by producers in the United States, 1944-45, by States

State	1944			1945		
	Quantity			Quantity		
	Short tons	Percent of total	Value	Short tons	Percent of total	Value
California.......	712,558	5	$3,138,185	694,609	4	$3,424,711
Kansas...........	932,238	6	4,357,217	855,806	6	3,837,850
Louisiana........	1,843,728	12	4,102,020	1,867,689	12	4,465,643
Michigan.........	4,287,758	27	14,921,719	4,285,493	28	14,942,443
New Mexico.......	23,759	(1/)	105,860	9,980	(1)	20,694
New York.........	2,925,675	19	9,899,580	2,862,224	19	10,327,013
Ohio.............	2,891,395	18	4,076,481	2,764,926	18	3,997,759
Oklahoma.........	(2/)	(2/)	(2/)	(2)	(2)	(2)
Puerto Rico......	13,620	(1/)	87,114	12,513	(1)	81,200
Texas............	1,147,397	7	3,627,528	1,100,791	7	3,490,820
Utah.............	119,809	1	368,500	122,997	1	363,997
West Virginia....	359,217	2	1,027,109	370,260	2	903,759
Other States 3/..	460,017	3	277,951	446,853	3	213,175
	15,717,171	100	$45,989,264	15,394,141	100	46,069,064

1/ Less than 0.5 percent.
2/ Included in "Other States".
3/ Oklahoma, Nevada, and Virginia.

Continued shortage of supplies retarded filling orders and many producers were behind in orders to the end of the year, the cessation of war giving no easement. Enough of a backlog of orders existed to absorb production that was no longer needed for war purposes. The military services continued to a certain extent to purchase salt for the armed forces, and the Department of Agriculture purchased table salt for its supply program. In the latter part of 1945 the situation concerning materials for containers, both textile and paper, and difficulties of transportation were reported in certain areas as worse than during the war. Difficulty and delay in obtaining machinery and parts and making repairs, as in previous years, were experienced also in 1945. Production was affected by serious fires at three widely separated salt plants.

Methods of manufacture.- No changes in basic methods used to produce salt were noted in 1945. The output by the several methods employed is given in the table below.

Salt sold or used by producers in the United States, 1944-45, by methods of manufacture

Method of manufacture	1944		1945	
	Short tons	Value	Short tons	Value
Evaporated:				
Bulk:				
Open pans or grainers	531,091	$5,452,389	944,612	$8,204,398
Vacuum pans	2,589,832	17,387,166	2,001,373	14,316,734
Solar	547,482	1,963,780	442,112	1,701,651
Pressed blocks	274,216	2,797,015	242,632	2,479,109
Rock:				
Bulk	3,369,175	11,500,601	3,410,929	12,115,237
Pressed blocks	79,063	724,456	94,811	849,154
Salt in brine (sold or used as such)	8,326,312	6,163,857	8,257,672	6,402,781
	15,717,171	45,989,264	15,394,141	46,069,064

Evaporated salt.- Persistent shortage of containers made marketing hard for evaporated salt, and especially table salt. In 1945, the output of 3,630,729 short tons was supplied by 52 plants in 12 States and Puerto Rico. It was produced either from the original brine of wells and ponds or from brine artificially produced from rock-salt deposits. Of the 1945 output, 175,296 tons were iodized.

Evaporated salt sold or used by producers in the United States, 1944-45, by States

	1944		1945	
	Short tons	Value	Short tons	Value
California	550,049	$2,806,964	581,730	$3,114,191
Kansas	373,112	3,085,161	337,697	2,676,919
Louisiana	58,560	462,897	65,264	548,922
Michigan 1/	1,103,825	7,868,207	879,007	7,379,970
New York	480,181	5,296,840	490,246	5,347,891
Ohio	480,469	3,562,181	451,317	3,486,752
Oklahoma	(2)	(2)	(2)	(2)
Puerto Rico	13,620	87,114	12,513	81,200
Texas	(2)	(2)	(2)	(2)
Utah	112,182	330,365	116,239	332,408
West Virginia 1/	150,286	981,980	159,129	858,155
Other States 3/	620,337	3,118,641	537,587	2,875,484
	3,942,621	27,600,350	3,630,729	26,701,892

1/ Includes a quantity of salt contained in brine for chemical use reported as evaporated salt with value as evaporated salt.

2/ Included under "Other States."

3/ Nevada, New Mexico, Oklahoma, and Texas.

Rock salt. - Nineteen operations produced 3,505,740 short tons of rock salt in eight States. This is an all-time high record for rock salt. Of the quantity, 34,525 tons were iodized.

Rock salt sold by producers in the United States, 1941-45

Year	Short tons	Value	Year	Short tons	Value
1941......	2,619,087	$8,761,827	1944......	3,448,238	$12,225,057
1942......	2,802,287	9,623,461	1945......	3,505,740	12,964,391
1943......	3,259,138	11,180,884			

Pressed blocks.- Eighteen evaporated-salt plants and eight rock-salt plants supplied the output of pressed blocks. The total included 32,594 short tons of evaporated and 24,478 tons of rock salt blocks that were iodized. A small part was sulfurized salt.

Pressed-salt blocks sold by original producers of the salt in the United States, 1941-45.

Year	From evaporated salt		From rock salt		Total	
	Short tons	Value	Short tons	Value	Short tons	Value
1941 ...	182,331	$1,505,040	56,701	$461,265	239,032	$1,966,305
1942 ...	240,354	2,228,062	67,490	569,014	307,844	2,797,076
1943 ...	269,064	2,598,873	77,912	668,027	346,976	3,266,900
1944 ...	274,216	2,797,015	79,063	724,456	353,279	3,521,471
1945 ...	242,632	2,479,109	94,811	849,154	337,443	3,328,263

Salt content in brine.- Thirteen plants in seven States contributed to a total of 8,257,672 short tons of salt in brine in 1945, or almost 54 percent of total salt produced.

USES

Previous annual reports on salt by the Bureau of Mines have elucidated the war uses of salt and salt compounds, many of which survived for civilian use.

The quantity of salt consumed in making synthetic rubber rose to 200,000 short tons in 1945 from 140,000 tons in 1944, and 66,000 tons in 1943. This is exclusive of that used in making chlorine therefor and in rubberlike materials.

DDT, now being produced by more than 10 companies, is being used not only in homes and camps but it is being sprayed from airplanes over fields and forests for insect-control. Also the material is incorporated in paints and wall washes, and is used as a sheep-dip.

As shown in detail in the accompanying table on uses, the most noteworthy increases in total salt used in 1945 were for table and other househole purposes, for highways, refrigeration, hides and leather, water treatment, textile processing, "other" chemicals, canning, preserving, and other food processing. Total salt used for fish curing was up a few thousand tons.

Total salt used for meat packing took the greatest dip in consumption in 1945 and that for livestock also declined. Agricultural and metallurgical uses also decreased.

Salt sold or used by producers in the United States, 1944-45, by classes and uses, in short tons

Use	1944			1945		
	Evaporated	Rock	Brine	Evaporated	Rock	Brine
Chlorine, bleaches, chlorates, etc. ...	1,141,408	806,010	917,931	795,859	644,916	1,092,200
Soda ash	....	104	7,339,998	(1)	....	7,087,227
Dyes and organic chemicals	67,116	46,114	....	58,101	41,460	....
Soap (precipitant) ..	54,218	22,402	....	50,141	18,862	(1)
Other chemicals	98,260	414,233	....	105,363	441,579	(1)
Textile processing ..	40,171	81,247	....	35,968	101,378	....
Hides and leather ...	97,506	147,819	....	105,227	161,049	....
Meat packing	426,271	373,816	....	362,202	360,744	....
Fish curing	35,998	67,844	....	36,123	71,571	....
Butter, cheese, and other dairy products	105,174	9,503	....	112,087	5,592	....
Canning and preserving	146,182	13,210	....	156,713	16,164	....
Other food processing	206,150	17,424	....	230,993	22,243	....
Refrigeration	39,575	196,353	....	45,449	235,904	....
Livestock	550,975	213,999	....	539,929	192,817	....
Highways, railroads, dust and ice control	9,300	218,903	....	10,149	307,656	....
Table and other household	436,323	166,292	....	472,106	210,175	....
Water treatment	165,024	184,427	....	179,544	196,842	(1)
Agriculture	53,622	11,156	....	42,753	14,013	....
Metallurgy	35,741	30,375	....	28,922	29,000	(1)
Other uses 2/	233,607	427,007	68,383	263,100	433,775	78,245
	3,942,621	3,448,238	8,326,312	3,630,729	3,505,740	8,257,672

1/ Included under "Other uses."
2/ Includes also exports where use is not specified.

DISTRIBUTION

In the accompanying table, salt shipped to destinations within a State in which it is produced is added to that shipped from other States. As reshipments are disregarded the statistics represent only original shipments into States by producers.

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	Short tons	Value	Short tons	Value	Short tons	Value
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Total salt used for meat packing took the greatest dip in consumption in 1945 and that for livestock also declined. Agricultural and metallurgical uses also decreased.

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Chlorine, bleaches, chlorates, etc. ...	1,141,408	806,010	917,931	795,859	644,916	1,092,200
Soda ash	....	104	7,339,998	(1)	....	7,087,227
Dyes and organic chemicals	67,116	46,114	....	58,101	41,460	....
Soap (precipitant) ..	54,218	22,402	....	50,141	18,862	(1)
Other chemicals	98,260	414,233	....	105,363	441,579	(1)
Textile processing ..	40,171	81,247	....	35,968	101,378	....
Hides and leather ...	97,506	147,819	....	105,227	161,049	....
Meat packing	426,271	373,816	....	362,202	360,744	....
Fish curing	35,998	67,844	....	36,123	71,571	....
Butter, cheese, and other dairy products	105,174	9,503	....	112,087	5,592	....
Canning and preserving	146,182	13,210	....	156,713	16,164	....
Other food processing	206,150	17,424	....	230,993	22,243	....
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Livestock	550,975	213,999	....	539,929	192,817	....
Highways, railroads, dust and ice control	9,300	218,903	....	10,149	307,656	....
Table and other household	436,323	166,292	....	472,106	210,175	....
Water treatment	165,024	184,427	....	179,544	196,842	(1)
Agriculture	53,622	11,156	....	42,753	14,013	....
Metallurgy	35,741	30,375	....	28,922	29,000	(1)
Other uses 2/	233,607	427,007	68,383	263,100	433,775	78,245
	3,942,621	3,448,238	8,326,312	3,630,729	3,505,740	8,257,672

1/ Included under "Other uses."
2/ Includes also exports where use is not specified.

DISTRIBUTION

In the accompanying table, salt shipped to destinations within a State in which it is produced is added to that shipped from other States. As reshipments are disregarded the statistics represent only original shipments into States by producers.

Distribution (shipments) of evaporated and rock salt in the United States, 1944-45, by States of destination, in short tons

Destination	1944		1945	
	Evaporated	Rock	Evaporated	Rock
Alabama	10,236	87,587	9,787	66,581
Arizona	14,101	3,864	14,453	4,734
Arkansas	15,742	54,743	8,285	47,730
California	342,188	49,249	367,377	59,326
Colorado	37,388	45,236	38,628	32,284
Connecticut	14,342	11,090	15,772	12,341
Delaware	4,559	8,745	5,261	11,292
District of Columbia	5,541	2,194	5,932	2,448
Florida	8,453	31,161	8,822	33,464
Georgia	19,626	52,390	20,366	57,976
Idaho	16,948	1,338	17,442	1,996
Illinois	260,284	213,794	228,687	221,495
Indiana	88,555	67,956	98,072	63,059
Iowa	122,466	105,542	112,764	102,199
Kansas	65,272	153,498	54,644	130,090
Kentucky	32,859	104,684	32,961	99,007
Louisiana	6,028	115,776	6,866	130,469
Maine	16,276	39,210	16,090	43,840
Maryland	37,742	57,168	41,106	44,568
Massachusetts	54,024	59,824	61,661	70,503
Michigan	406,373	47,869	143,708	65,146
Minnesota	116,766	71,012	115,982	73,024
Mississippi	13,723	30,738	3,874	32,494
Missouri	73,187	83,578	79,981	85,839
Montana	21,399	2,487	22,200	2,870
Nebraska	64,029	71,591	59,531	67,572
Nevada	11,894	113,305	7,006	51,759
New Hampshire	4,551	46,696	4,839	49,731
New Jersey	97,638	189,041	99,537	178,354
New Mexico	9,997	17,465	6,809	22,229
New York	220,224	470,426	239,407	524,577
North Carolina	57,839	46,523	58,401	47,110
North Dakota	1/ 10,929	5,044	11,782	5,225
Ohio	1/206,855	116,115	204,954	144,880
Oklahoma	32,236	39,347	29,659	36,019
Oregon	37,898	192	42,989	298
Pennsylvania	147,566	116,637	155,320	131,908
Rhode Island	9,530	9,717	9,642	12,307
South Carolina	9,739	18,081	11,786	20,648
South Dakota	22,057	19,617	24,177	18,472
Tennessee	31,401	50,778	24,642	63,659
Texas	566,273	243,388	515,030	250,170
Utah	26,234	3,410	27,890	2,405
Vermont	5,608	11,838	5,281	13,253
Virginia	55,606	84,973	55,830	83,931
Washington	154,960	678	137,618	1,569
West Virginia	165,132	80,776	172,647	75,883
Wisconsin	109,922	29,241	123,200	34,304
Wyoming	14,784	2,762	9,757	3,589
Other 2/	65,641	159,864	62,274	171,113
	3,942,621	3,448,238	3,630,729	3,505,740

1/ Revised figure.

2/ Includes salt used in Puerto Rico (evaporated salt); exports to Africa, Canada, Central America, Cuba, Mexico, Newfoundland, South America, West Indies, and other countries; shipments to Alaska, Hawaii, and Puerto Rico; and some shipments to unspecified destinations.

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UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

J. A. KRUG, Secretary

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MINERAL MARKET REPORT
M.M.S. NO. 1404

FUEL BRIQUETS AND PACKAGED FUEL IN 1945

Despite 1945 shortages in the supply of labor, raw fuels, and other materials, the fuel-briquetting industry has continued steady expansion of its production since 1938. Output in 1945 reached a total of 2,762,204 net tons--73 percent of the total capacity of the 32 plants in operation. Packaged-fuel production, after 4 years of steadily declining output, began to recover in 1945, rising to 208,143 tons and utilizing 46 percent of the capacity of the 61 plants in operation.

Wartime controls by the War Production Board (now Civilian Production Administration) were generally dropped after cessation of hostilities in August 1945; however, the Mining Division of CPA is still offering limited priority assistance to industry to obtain urgently needed machinery to avoid bottlenecks in production.

The program inaugurated in 1944 by the Solid Fuels Administration for War for the wider utilization of surplus anthracite fines in the manufacture of fuel briquets and packaged fuel to alleviate the shortage of scarce bituminous coals continued effective in 1945 and close to a million tons of Pennsylvania anthracite fines were used in the manufacture of fuel briquets and packaged fuel in that year. Practically all Federal restrictions on coal ordered by the Solid Fuels Administration for War were removed by April 1, 1946.

Price control by the Office of Price Administration remained effective throughout 1945 and served to prevent a repetition of the high briquet prices of World War I (Minerals Yearbook 1943, p. 1041).

Technologic developments.-Under cooperative agreement between the Bureau of Mines and the University of West Virginia, laboratories will be provided by the University at Morgantown and staffed by Bureau of Mines personnel for experiments as part of the 5-year synthetic liquid fuels program authorized by the 78th Congress; the laboratory will include a briquetting and coking section.

Work on the Piersol process and press installed at the Applied Research Laboratory of the Illinois Geological Survey at Urbana, Ill., for the briquetting of Illinois coals without a binder, was continued in 1945 with further experiments on contour of the briquet and metallurgical composition of briquetting dies. A new development in the process consists of making briquets at room temperature from minus 10-mesh Illinois coals on the commercial-scale press without binder at approximately 30,000 pounds per square inch, followed by a 1-hour heat treatment at about 360 degrees C. in order to render the briquets smokeless and weather resistant. (Ill. State Geol. Survey Repts. of Investigations 31, 37, and 41.)

Outlook.-As the demand for fuel briquets and packaged fuel in recent years has generally exceeded the supply, it is reasonable to assume that production of these fuels will continue to increase. Two large new plants of the Reading Briquet Co. in Pennsylvania expect to start operations in 1946 and interest in briquetting is spreading in other States.

The packaged-fuel industry--relatively young and comprising many small operations, with a few exceptions--was unable to successfully weather the reverses of 4 years' shortages of labor and critical materials caused by the war. However, packaged fuel has definitely demonstrated its popularity and achieved a permanent place in the consumer fuel market. Production in 1945 has already taken an upward turn and further expansion of the market was the objective of discussions at the meeting of the National Association of Packaged Fuel Manufacturers in Chicago on June 12, 1945.

FUEL BRIQUETS

Salient statistics of the fuel-briquetting industry from 1941 to 1945 are summarized in the following table.

SALIENT STATISTICS OF THE FUEL-BRIQUETTING INDUSTRY IN THE UNITED STATES, 1941-45
[Data regarding packaged fuel are given separately at end of this chapter]

Year	Production: Eastern States	Production: Central States	Production: Pacific Coast States	Production: Total	Imports	Exports	Consumption 1/	Value of production	Plants in operation	Average output per plant (net tons)	Average value per net ton, f.o.b. plant: Eastern States	Central States	Pacific Coast States
	Net tons												
1941 ----	457,511	751,801	89,294	1,298,606	162	40,477	1,258,291	$8,001,829	32	40,581	$4.21	$7.09	$8.36
1942 ----	565,675	1,047,747	134,878	1,748,300	334	103,921	1,644,713	11,266,041	30	58,277	4.56	7.04	9.69
1943 ----	544,786	1,493,368	125,844	2,163,998	198	174,973	1,989,223	15,148,109	28	77,286	5.04	7.44	10.26
1944 ----	625,779	1,704,005	135,177	2,464,961	538	163,672	2,301,827	18,434,579	30	82,165	5.42	8.03	10.07
1945 ----	637,740	1,991,733	132,731	2,762,204	722	174,107	2,588,819	21,678,886	32	86,319	5.65	8.40	10.04

1/Production plus imports minus exports.

The production of fuel briquets in 1945, continuing its upward trend, reached a total of 2,762,204 tons valued at $21,678,886--a 12-percent increase in tonnage and an 18-percent increase in value over 1944. Briquets were made in 15 States in 1945, with production centered in Wisconsin leading with 1,486,515 tons, followed by West Virginia, Pennsylvania, and Missouri, in order. In 1945, for the first time on record, there were 3 plants in operation in Illinois, producing 117,229 tons valued at $512,692.

By Gertrude S. Goodman, Anthracite and Coke Section, J. A. Corgan, Chief.
Coal Economics Division, Economics and Statistics Branch.

Thirty-two briquetting plants reported production in 1945; 23 of these have been active every year for periods of from 7 to 37 years. Five plants were idle in 1945. Of the 7 plants reported under construction in 1944, 2 started commercial production in 1945--the Super Heat Fuel Co. at Belleville, Ill. and the Virginia Coal & Supply Co., at Milwaukee, Wis. Two additional briquetting plants were reported under construction in 1945 to start operations in 1946 (at Fort Scott, Kans. and at Flint, Mich.).

PRODUCTION OF FUEL BRIQUETS IN THE UNITED STATES, 1944-45

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	1944			1945			Change in 1945, percent	
	Plants	Net tons	Value	Plants	Net tons	Value	Tonnage	Value
Eastern States----------------------------	5	625,779	$3,393,595	5	637,740	$3,606,372	+ 1.9	+ 6.3
Central States----------------------------	22	1,704,005	13,680,036	24	1,991,733	16,739,912	+ 16.9	+ 22.4
Pacific Coast States----------------------	3	135,177	1,360,948	3	132,731	1,332,602	- 1.8	- 2.1
	1/ 30	2,464,961	18,434,579	1/ 32	2,762,204	21,678,886	+ 12.1	+ 17.6

1/ 1944: 10 plants in Wisconsin; 3 in Missouri; 2 each in Illinois, Michigan, Pennsylvania, and West Virginia; and 1 each in Arkansas, California, Massachusetts, Minnesota, Nebraska, North Dakota, Oregon, Washington, and Wyoming; 1945: 11 plants in Wisconsin; 3 each in Illinois and Missouri; 2 each in Michigan, Pennsylvania, and West Virginia; and 1 each in Arkansas, California, Massachusetts, Minnesota, Nebraska, North Dakota, Oregon, Washington, and Wyoming.

Eight kinds of raw fuels entered into the manufacture of fuel briquets in 1945 and 10 types of briquets were made from these fuels (8 alone and 2 in combination). In the following tables, the quantities of raw fuels used and tonnages of each type produced are shown wherever possible without revealing operations of individual plants. As a direct result of the program inaugurated in 1944 by the Solid Fuels Administration for War for wider utilization of surplus anthracite fines, the use of these fines rose from 389,000 tons (at 6 plants), or 19 percent of the total raw fuels in 1943, to 927,000 (at 12 plants), or 36 percent of the total in 1945. Bituminous coal which continued tight in 1945, dropped from 65 percent of the total raw fuels used in 1943 to 47 percent in 1945. About 25,000 tons of petroleum coke, again on the market since October 24, 1944, when wartime restrictions on its use as a domestic fuel were rescinded, was used by 4 operators in 1945.

RAW FUELS USED IN MAKING FUEL BRIQUETS IN THE UNITED STATES, 1943-45

Raw fuel	Net tons			Percent of total		
	1943	1944	1945	1943	1944	1945
Pennsylvania anthracite ----------------------------------	388,693	711,109	926,822	18.7	30.5	35.6
Arkansas hard coals --------------------------------------	203,357	272,242	281,185	9.8	11.7	10.8
Bituminous (high- and low-volatile) coals ----------------	1,341,013	1,188,886	1,221,254	64.6	51.0	46.9
Semicoke (lignite char) ----------------------------------	1/ 143,381	153,025	148,991	1/ 6.9	6.5	5.7
Residual carbon from pyrolysis of natural gas ------------						
Residual carbon from manufacture of oil gas --------------						
Petroleum coke ---		6,224	24,959		.3	1.0
	2,076,444	2,331,486	2,603,211	100.0	100.0	100.0

1/Includes a relatively small tonnage of petroleum coke of a type exempt from wartime allocation in 1943 (wartime restrictions rescinded October 24, 1944).

CLASSIFICATION OF PLANTS AND PRODUCTION OF FUEL BRIQUETS IN THE UNITED STATES, BY KINDS OF RAW FUEL USED, 1943-45

Raw fuel used	1943			1944			1945		
	Plants	Briquets produced		Plants	Briquets produced		Plants	Briquets produced	
		Net tons	Percent of total		Net tons	Percent of total		Net tons	Percent of total
Pennsylvania anthracite------------------------	1	845,882	39.1	2	1,409,312	57.2	2	1,765,769	63.9
Mixture of Pa. anthracite and bituminous-------	5			10			10		
Semianthracite---------------------------------	4	235,865	10.9	5	302,616	12.3	4	303,423	11.0
Mixture of Arkansas hard coals-----------------	1			1			1		
Mixture of semianthracite and bituminous-------	1			-----			-----		
Mixture of semianthracite, bituminous, and petroleum coke------------------------------	1/ 1			1			-----		
Bituminous:									
Low-volatile-----------------------------	14	932,582	43.1	10	584,981	23.7	8	510,565	18.5
High-volatile----------------------------	1			1			2		
Semicoke (lignite char)------------------------	1	149,669	6.9	1	161,910	6.6	1	156,448	5.7
Residual carbon from pyrolysis of natural gas--	1			1			1		
Residual carbon from manufacture of oil gas----	2			2			2		
Petroleum coke---------------------------------	-----	---------	-----	4	6,142	.2	4	25,999	.9
	2/ 32	2,163,998	100.0	2/ 38	2,464,961	100.0	2/ 35	2,762,204	100.0

1/Relatively small tonnage of petroleum coke of a type exempt from wartime allocation in 1943 (wartime restrictions rescinded October 24, 1944).

2/In 1943, 4 plants made 2 kinds of briquets; in 1944, 6 plants made 2 kinds and 1 plant 3 kinds; in 1945, 3 plants made 2 kinds; hence the sum of these items exceeds the total number of plants active in the respective years.

Asphalt binders remain the preferred type in briquetting coal and coke and were used by 26 plants that produced 87 percent of the fuel briquets made in 1945. Three other plants used, respectively, asphalt and coal-tar pitch combined, asphalt and starch combined, and starch. Three plants used no binder; two of these briquetted the carbon residue from the manufacture of oil gas and one used low-volatile bituminous coal. Seventy-five percent of the total production of fuel briquets in 1945 was made with binders ranging from 5 to 7 percent (ratio of binder to raw fuel--by weight), as compared with 31 percent of the production in 1942, 38 percent in 1943, and 70 percent in 1944.

Pillow-shaped briquets (weighing less than 5 ounces with 1 exception) were made at 29 plants; cylindrical (barrel-shaped) briquets were made at 2 plants and 20- and 24-ounce cubes at 1 plant. Briquets weighing between 2 and 3 ounces predominate and account for 60 percent of the total production in 1945.

Briquets are widely used in the United States; in 1945 they were shipped into 35 States, the District of Columbia, and exported principally to Canada. The entire output of California, North Dakota, and Washington was consumed within those States. Shipments from each producing State cannot be shown because there are only one or two producers in each of the producing States except Wisconsin, Missouri, and Illinois and confidential data of individual operations would thus be revealed. The relatively small difference between production in 1945 (2,762,204 tons) and shipments within the United States (2,585,091) represents briquets exported, used at plants for fuel, and stocks on hand.

SHIPMENTS OF FUEL BRIQUETS OF DOMESTIC MANUFACTURE IN THE UNITED STATES, 1944-45, BY STATES OF DESTINATION, AS REPORTED BY PRODUCERS, IN NET TONS 1/

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State of destination	1944	1945	State of destination	1944	1945
Arkansas	614	540	Nebraska	44,900	54,225
California	12,670	15,343	New Hampshire	3,336	3,868
Connecticut	4,512	7,738	New Jersey	12,193	16,241
Delaware	2,751	3,147	New York	48,403	66,731
District of Columbia	872	1,606	North Carolina	14,383	13,985
Florida	484	615	North Dakota	125,331	145,401
Georgia	139	152	Ohio	57,226	53,385
Illinois	90,358	92,143	Oregon	88,107	89,901
Indiana	49,235	47,321	Pennsylvania	45,104	52,247
Iowa	90,379	150,815	Rhode Island	6,281	7,100
Kansas	16,595	15,384	South Carolina	3,800	4,057
Kentucky	3,477	5,149	South Dakota	118,811	139,399
Maine	10,358	11,155	Vermont	605	1,697
Maryland	6,649	10,028	Virginia	19,082	19,687
Massachusetts	51,075	51,153	Washington	8,266	7,709
Michigan	121,754	131,455	West Virginia	2,307	1,476
Minnesota	515,671	551,855	Wisconsin	448,313	535,883
Missouri	254,360	276,471	Wyoming	----------	29
Montana	79	----------		2,278,480	2,585,091

1/For shipments outside the United States see table of official export statistics "Briquets exported from the United States in 1944-45, by countries of destination and customs districts."

Imports of briquets into the United States for the years 1941 through 1945 were small and virtually all from Canada. Exports in 1945 of fuel briquets made in the United States were shipped principally to Canada and small tonnages to Switzerland, French Morocco, France, Mexico, and Cuba.

The United States ranks among the world's larger briquet-producing countries. Such official data on production throughout the world as it has been possible to obtain since the beginning of the war in 1939 are as follows:

WORLD PRODUCTION OF FUEL BRIQUETS, 1938-45, BY COUNTRIES, IN METRIC TONS 1/

[Compiled by B. B. Waldbauer]

Country 1/	1938	1939	1940	1941	1942	1943	1944	1945
Algeria	(2)	(2)	(2)	49,459	45,565	50,685	85,000	(2)
Australia:								
Victoria 3/	420,704	421,254	(2)	440,718	420,086	421,619	435,727	(2)
Belgium	1,712,280	1,561,210	1,726,500	1,521,220	1,105,190	1,005,860	445,080	(2)
Bulgaria	85,770	88,496	100,000	(2)	(2)	(2)	(2)	(2)
Canada	(2)	(2)	(2)	(2)	(2)	(2)	277,389	(2)
Eire (Irish Free State)	20,501	(2)	5,423	15,446	21,052	90,188	123,749	(2)
France	7,475,000	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Germany:								
Coal 4/	6,897,245	3/6,950,000	3/6,498,000	3/7,855,000	3/7,244,000	3/7,185,000	3/6,418,000	(2)
Lignite 5/	44,007,268	3/44,930,000	3/48,853,000	3/54,409,000	3/55,293,000	3/59,706,000	3/61,549,000	(2)
Hungary	441,081	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Indochina	131,558	185,400	114,000	(2)	(2)	(2)	(2)	(2)
Italy	51,047	83,052	129,404	121,451	(2)	(2)	(2)	(2)
Netherlands:								
Coal	1,262,716	1,268,926	(2)	(2)	(2)	(2)	(2)	(2)
Lignite	60,543	68,607	(2)	(2)	(2)	(2)	(2)	(2)
Netherlands Indies	82,123	85,079	99,315	(2)	(2)	(2)	(2)	(2)
New Zealand	29,947	29,889	28,529	20,220	13,052	12,386	12,661	(2)
Poland	222,531	(2)	(2)	(2)	(2)	(2)	(2)	59,600
Portugal	19,865	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Rumania	232,662	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Spain	568,000	789,815	820,479	412,453	788,612	653,994	924,862	(2)
Tunisia	86,478	83,989	48,678	24,259	20,691	(2)	(2)	(2)
Turkey	37,285	14,792	24,497	28,392	(2)	30,256	34,276	(2)
United Kingdom	507,415	813,810	(2)	(2)	(2)	749,342	883,974	(2)
United States (incl. packaged fuel) 6/	936,402	1,004,902	1,211,433	1,422,866	1,815,583	2,158,728	2,395,618	2,694,639
Yugoslavia	100,945	132,466	(2)	(2)	(2)	(2)	(2)	(2)
Total	7/65,389,366	(2)	(2)	(2)	(2)	(2)	(2)	(2)

1/In addition to countries listed briquets are produced in Czechoslovakia and New Caledonia but data on output are not available.

2/Data not available.

3/Data for year ended March 31 of year stated.

4/Beginning October 1939, figures include production from East Upper Silesia.

5/Beginning October 1938, figures include production from Sudetenland.

6/Includes packaged fuel as follows--1938: 146,012 tons; 1939: 195,504; 1940: 258,105; 1941: 244,797; 1942: 229,560; 1943: 195,592; 1944: 159,455; 1945: 188,823 tons.

7/Total incomplete; it represents sum of figures given in table only.

PACKAGED FUEL

Notwithstanding the continued shortages in labor and materials and idleness at 29 packaged-fuel plants, production in 1945 increased for the first time since 1940, the peak year of production for the industry. The 61 plants active in 1945 produced 208,143 tons, with a value of $2,518,636, an increase of 18 percent in production and 23 percent in value over 1944. The upturn in production is the result of resumption of operations at 2 plants (rebuilt after fires in 1944), production of the new plant of the White Glove Packaged Fuel Division of the Blaw-Knox Co., at Philadelphia, Pa. (starting in June 1945), and general increases in production at plants in Michigan, Minnesota, and Ohio. The output per plant attained its highest average in 1945, rising from 2,585 tons in 1944 to 3,412 tons in 1945.

SALIENT STATISTICS OF THE PACKAGED-FUEL INDUSTRY IN THE UNITED STATES, 1941-45

[Data regarding fuel briquets are given separately at beginning of this chapter]

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Year	Production (net tons)			Value of production	Plants in operation	Average output per plant (net tons)	Average value per net ton, f.o.b. plant	
	Eastern and Pacific Coast States	Central States	Total				Eastern and Pacific Coast States	Central States
1941	9,549	260,295	269,844	$2,471,567	103	2,620	$10.95	$9.09
1942	7,583	245,465	253,048	2,540,087	89	2,843	10.74	10.02
1943	1/ 4,970	210,635	215,605	2,366,733	72	2,995	1/ 11.55	10.96
1944	1/ 3,788	171,982	175,770	2,053,343	68	2,585	1/ 12.26	11.67
1945	1/16,606	191,537	208,143	2,518,636	61	3,412	1/ 12.86	12.04

1/Eastern States; no production in Pacific Coast States in 1943-45.

ACTIVITY IN NUMBER OF PACKAGED-FUEL PLANTS IN THE UNITED STATES, 1940-45

Year	Active	New	Idle	Out of business
1940	106	16	15	14
1941	103	7	8	14
1942	89	4	16	8
1943	72	5	23	9
1944	68	4	22	7
1945	61	1/ 3	2/ 29	3/ 5

1/ 1 each in Michigan, Ohio, and Pennsylvania and active in 1945.
2/ 16 in Michigan; 3 each in Indiana, Missouri, and Ohio; 2 in Wisconsin; and 1 each in Illinois and Washington.
3/ 2 in Michigan and 1 each in Missouri, Ohio, and Pennsylvania (none of these was active in 1945).

PRODUCTION OF PACKAGED FUEL IN THE UNITED STATES, 1944-45, BY STATES

[Plants and production not included in preceding fuel-briquet tables]

States	1944			1945		
	Plants	Net tons	Value	Plants	Net tons	Value
Eastern States	1/ 5	3,788	$46,450	1/ 5	16,606	$213,476
Central States:						
Illinois	4	1,837	23,037	2	(2)	(2)
Indiana	2	(2)	(2)	2	(2)	(2)
Iowa	1	(2)	(2)	1	(2)	(2)
Michigan	25	44,748	522,676	21	60,034	724,003
Minnesota	4	29,052	385,743	4	35,191	466,045
Nebraska	1	(2)	(2)	1	(2)	(2)
Ohio	16	31,423	342,399	15	32,271	376,839
Wisconsin	10	47,847	548,515	10	47,351	551,680
Undistributed 3/	--------	17,075	184,523	--------	16,690	186,593
Total Central States	63	171,982	2,006,893	56	191,537	2,305,160
Total United States	68	175,770	2,053,343	61	208,143	2,518,636

1/Maine, 1; Pennsylvania, 1; and Virginia, 3.
2/Included under "Undistributed;" Bureau of Mines not at liberty to publish figures.
3/Includes States entered as (2) above.

The outstanding development in the packaged-fuel industry in 1945 is the successful utilization of Pennsylvania anthracite fines combined with bituminous coal in the manufacture of packaged fuel, as demonstrated by the White Glove Packaged Fuel Division of the Blaw-Knox Co. Experiments made by the Bureau of Mines, which proved the feasibility of this combination of raw fuels, are discussed by J. F. Barkley and William Seymour, of the Bureau of Mines, in their article "War Problem of Increasing Utilization of Small Anthracite," published in Mechanical Engineering, July 1945 (pp. 457-462).

Of the 61 plants in operation in 1945, 54 used the Eberling process, 2 used Glenn-Smith equipment; 2 used Leemon equipment, 2 used equipment designed by the Johnson Coal Cubing Co. Inc., of Detroit, Mich., and the White Glove plant used equipment manufactured by the Blaw-Knox Co., of Pittsburgh, Pa.

Five kinds of raw fuels entered into the manufacture of six types of packaged fuel in 1945 as shown in the following tables. The plant of the White Glove Packaged Fuel Division of the Blaw-Knox Co., in Philadelphia, Pa. (using Pennsylvania anthracite fines combined with a lesser quantity of bituminous low-volatile) began operations in June 1945, but production in 1945 was not as large as anticipated.

RAW FUELS USED IN MAKING PACKAGED FUEL IN THE UNITED STATES, 1943-45

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Raw fuel	1943		1944		1945	
	Plants	Net tons	Plants	Net tons	Plants	Net tons
Bituminous:						
Low-volatile	69	206,059	65	156,388	59	174,164
High-volatile	2		3	316	3	3,123
Pennsylvania anthracite	-------	------------	1	4,597	1	11,168
Semianthracite	2	6,613	2		2	
Coke breeze	-------		1		------	------------
Petroleum coke	1/ 2		7	12,560	8	15,995
	2/ 75	212,672	2/79	173,861	2/73	204,450

1/These plants reported a relatively small tonnage of petroleum coke of a type exempt from wartime allocation in 1943 (wartime restrictions rescinded Oct. 24, 1944).

2/In 1943, 69 plants used 1 kind of fuel only, 1 used 2 kinds (separately), and 2 used mixtures of 2 kinds; in 1944, 57 plants used 1 kind of fuel only, 7 used 2 kinds (separately), and 4 used mixtures of 2 kinds; and in 1945, 50 plants used 1 kind of fuel only, 8 used 2 kinds (separately), 1 used 3 kinds (separately), and 2 used mixtures of 2 kinds. Hence the number of items exceeds the total number of active plants in the respective years.

CLASSIFICATION OF PLANTS AND PRODUCTION OF PACKAGED FUEL IN THE UNITED STATES IN 1944-45, BY KINDS OF RAW FUEL USED

Raw fuel used	1944			1945		
	Plants	Packaged fuel produced		Plants	Packaged fuel produced	
		Net tons	Percent of total		Net tons	Percent of total
Bituminous:						
Low-volatile (exclusively)	61	151,626	86.3	57	167,309	80.4
High-volatile (exclusively)	2			3	3,147	1.5
Mixture of bituminous low- and high-volatile	1	12,265	7.0	------	23,154	11.1
Mixture of bituminous low-volatile and Pennsylvania anthracite	1			1		
Mixture of bituminous low-volatile and petroleum coke	1			1		
Mixture of bituminous low-volatile and coke breeze	1			------		
Semianthracite (exclusively)	2			2		
Petroleum coke (exclusively)	6	11,879	6.7	7	14,533	7.0
	1/ 75	175,770	100.0	1/ 71	208,143	100.0

1/In 1944, 2 types of packaged fuel were made at 7 plants; in 1945, 3 types were made at 1 plant and 2 types at 8 plants; hence the sum of these items exceeds the total number of plants active in the respective years.

In 1945, about 158,000 tons (77 percent of the total raw fuels) were shipped-in slack from the mines and from the Lake docks. The remainder represents yard screenings. Fourteen of the 61 operators used shipped-in slack exclusively, 20 used yard screenings exclusively, and 27 used both shipped-in and yard screenings.

Cornstarches totaling 1,094 tons were used as binder by 59 plants (31 using 15 pounds per ton, 19 more than 15 pounds, and 9 less than 15); asphalt totaling 2,600 tons, was used alone as binder by 3 plants and 1 plant making petroleum-coke cubes used a combination of starch and asphalt. No cement was reported in 1944 or 1945.

Local sales (called for by passenger car or delivered by truck) amounted to 171,621 tons and accounted for 83 percent of the 1945 total sales; other than local (shipped by truck to points in Wisconsin, Minnesota, and Michigan), 11 percent; and shipments by rail (to points in Wisconsin, Michigan, Minnesota, and Iowa), were about 6 percent.

SHIPMENTS OF PACKAGED FUEL IN THE UNITED STATES BY METHOD OF MOVEMENT, 1943-45, IN NET TONS

Year	Shipped by truck			Shipped by rail	Total
	Local sales 1/	Other than local sales	Total truck		
1943	167,800	33,582	201,382	14,137	215,519
1944	139,026	24,302	163,328	12,389	175,717
1945	171,621	23,381	195,002	11,713	206,715

1/ Includes sales called for and delivered.

NOTE

The complete report with detailed tables, to be released shortly as a chapter of Minerals Yearbook 1945, will be distributed to the regular mailing list.

Directories of fuel-briquetting and packaged-fuel plants operating in 1945 and names of manufacturers of equipment will be furnished on request by the Bureau of Mines, Washington 25, D. C.

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MINERAL MARKET REPORT
MMS NO. 1405

THE ASBESTOS INDUSTRY IN 1945.

Asbestos production in the United States in 1945 experienced a substantial gain over 1944, according to the Bureau of Mines, U. S. Dept. of the Interior. As in previous years most of the domestic output consisted of the shorter grades of chrysotile mined in Vermont. Production in 1945 totaled 13,605 short tons compared with 7,558 tons in 1944, a gain of 80 percent. Domestic sales reached 12,252 short tons, a gain of 84 percent over 1944. The domestic producing industry furnished only 3 percent of total consumption in the United States during 1945.

Canada furnished a large part of the United States requirements of shingle stock, paper stock and other of the non-spinning grades. Africa supplied a substantial part of longer grades that were of great importance in the military program, and that will continue in strong demand under peacetime conditions. Woven friction materials particularly for automotive manufacture, and packings and gaskets employed in power-generating plants are among the important uses of the long fibers.

Amosite asbestos, used extensively in making 85-percent magnesia and other high-temperature molded insulation, is obtained only in South Africa. Blue asbestos (crocidolite), is obtained chiefly in South Africa although small quantities sometimes originate in Australia.

Tremolite asbestos which is of value for filtering chemicals was mined in Maryland for many years until the deposit was exhausted. Production has now shifted to California and Alaska.

Salient statistics for asbestos in 1944 and 1945 are summarized in the following table.

Prepared by Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

Salient statistics of the asbestos industry in the United States, 1944-45
(compiled by D.I. Marsh)

	1944		1945	
	Short tons	Value	Short tons	Value
Domestic asbestos--				
Produced:				
Chrysotile	1/7,166	(2)	13,340	(2)
Amphibole	1/ 392	(2)	265	(2)
Total produced	7,558	(2)	13,605	(2)
Sold or used by producers:				
Chrysotile	1/6,275	1/$373,112	11,987	$413,734
Amphibole	1/ 392	1/ 7,222	265	8,989
Total sold or used by producers	6,667	380,334	12,252	422,723
Imports (unmanufactured)	1/383,049	1/18,542,940	374,199	16,284,915
Exports (unmanufactured)	475	58,983	8,550	837,175
Apparent consumption3/	1/389,241	1/18,864,291	377,901	15,870,463
Exports of asbestos products	(2)	1/ 5,614,243	(2)	7,264,087

1/Revised figures.
2/Figures not available.
3/Quantity sold or used by producers, plus imports, minus exports.

The following table shows domestic production of asbestos during recent years according to varieties.

Asbestos sold or used by producers in the United States, 1941-45, by varieties
(compiled by D.I. Marsh)

	Chrysotile		Amphibole		Total	
	Short tons	Value	Short tons	Value	Short tons	Value
1941	22,439	707,589	1,952	18,164	24,391	725,753
1942	13,373	480,245	2,108	18,612	15,481	498,857
1943	3,900	302,289	2,114	32,526	6,014	334,815
1944	1/6,275	1/373,112	1/ 392	1/ 7,222	6,667	380,334
1945	11,987	413,734	265	8,989	12,252	422,723

1/ Revised figures.

REVIEW BY STATES

Alaska - Tremolite asbestos was again shipped from the Dahl Creek area, Kobuk River district. A small quantity of long slip-fiber chrysotile also was produced. The deposits of both varieties were worked by the Arctic Circle Exploration Co., Candle, Alaska.

Arizona - The Arizona Chrysotile Asbestos Co. of Globe continued to be the largest producer in the State. Arthur Enders produced both spinning and short fibers at the Reynolds Falls Mine about 50 miles from Globe, Gila County. The Globe Los Angeles Mining Co. (address 724 So. Spring St., Los Angeles 14, Calif.) recovered short fiber from the waste dumps of the Canadian Mine in Gila County. Guy Phillips of Globe and John A. Bacon of Roosevelt, also produced in Gila County. The entire production of Arizona was of the chrysotile variety. Sales were considerably greater than in 1944.

The mill of Pine Top Asbestos Mines, financed by the Defense Plant Corp., has been acquired by the Globe Asbestos Company, and is said to have begun production in January 1946.

California - The Powhatan Mining Co. (Woodlawn, Baltimore, Md.) produced tremolite asbestos near Castella and Hazel Creek (Sims) Shasta County - shipping point Dunsmuir. Homer E. Fenn also reported sales of tremolite from a deposit near Hazel Creek. Kohler & Chase shipped short-fiber chrysotile from the mine near Monticello, Napa County, but did not produce. Sales in 1945 were considerably smaller than in 1944.

Georgia - The only producer in Georgia in 1945 was the Powhatan Mining Co. from its amphibole asbestos property near Dillard, Rabun County.

North Carolina - A deposit of amphibole asbestos in Macon County not far from Dillard which is over the line in Georgia, was worked by the Powhatan Mining Co. of Woodlawn, Baltimore, Md.

Vermont - The Vermont Asbestos Mines Division of the Ruberoid Co. (500 - 5th Ave., New York 18, N. Y.) is operating both the new quarry one mile from the mill, and the old quarry close to the mill site. Both mill and quarries were operated most of the time throughout the winter of 1945-46, as well as during the summer months, but production was limited by a serious shortage of labor. The long fiber obtained in the new quarry has not yet been adapted to spinning purposes, but is being prepared as a high grade shingle fiber. Most of the output is short-fiber chrysotile. Production was far below plant capacity, but was, nevertheless, much greater than in 1944.

MARKET CONDITIONS

Although the Canadian mines were operating virtually at capacity and imports from Africa were uninterrupted market demands threatened to exceed supply. Demands for spinning fibers eased somewhat during the early months of 1945 but became stronger toward its close. Decreased requirements because of cancelled war orders were more than compensated by demands from liberated countries for crudes, spinning and shingle fibers. Also there was an increasing demand for fibers of the latter category to supply the needs of new asbestos cement industries recently established in several countries. A definite shortage of both spinning and shingle fibers had developed at the end of the year.

FUTURE OUTLOOK

The largest tonnages of asbestos are used in the building trades. Asbestos-cement products in the form of flat and corrugated sheeting, wallboard, millboard, lumber and roofing shingles are finding wider application at this time because of a lumber shortage. As the building program enlarges during 1946 the demands for such products will so increase that a shortage of cement stock fibers is forecast. Important accessories to the building trades are heat-insulation materials such as pipe and boiler covering. Eighty-five percent magnesia pipecovering and block insulation, air-cell pipecovering made of asbestos paper, cements and other insulating products will doubtless be in heavy demand to supply the needs of new industrial units as well as many new public and private building projects.

A strong demand is in prospect also for the longer fibers applied to textile use. The revivified automobile industry will demand large quantities of woven brake linings and clutch facings, and many woven packings and gaskets will be needed to satisfy the requirements of industrial and power plants. There will of course be a tremendous decline in demand for cable coverings, other Navy uses, and friction materials for army mobile equipment and aircraft, but it is believed that industrial and construction needs will more than compensate for these losses.

The rehabilitation of asbestos products industries in foreign countries is an important factor in the raw materials situation. In most of the countries where such plants exist there are no asbestos-producing industries. The supplies of raw materials must originate in the long-established centers of production, namely Canada, Africa and Soviet Russia. This condition threatens to increase further the danger of a shortage of supply of certain grades. The U.S.S.R. is a large asbestos producer but with growing industrialization it seems unlikely that large quantities of Russian fiber will be made available to world markets.

FOREIGN TRADE

The following table shows imports of unmanufactured asbestos into the United States in 1944 and 1945. Total imports declined 2 percent in quantity and 12 percent in value. The larger proportional decline in value is due to a falling off in imports of crudes and high-grade mill fibers, and an increase in imports of low-priced short fibers. Imports from Africa declined greatly. Imports from the U.S.S.R. were about the same in 1945 as in 1944, but the fiber received in 1945 was of higher grade.

Asbestos (unmanufactured) imported for consumption in the United States, 1944-45, by countries and classes

Country	Crude (including blue fiber)		Mill fibers		Short fibers		Total	
	Short tons	Value	Short tons	Value	Short tons	Value	Short tons	Value
1944								
Africa:								
Southern Rhodesia	7,966	$1,522,825	---	---	---	---	7,966	$1,522,825
Union of South Africa..	19,196	1,859,982	---	---	---	---	19,196	1,859,982
Bolivia..	15	1,905	---	---	---	---	15	1,905
Canada...	1,528	564,545	145,791	$9,757,627	205,928	$4,720,939	353,247	15,043,111
Chile....	14	1,118	---	---	---	---	14	1,118
U.S.S.R..	---	---	2,610	113,390	---	---	2,610	113,390
United Kingdom..	---	---	1	609	---	---	1	609
	28,719	3,950,375	148,402	9,871,626	205,928	4,720,939	383,049	18,542,940
1945								
Africa:								
Southern Rhodesia	2,545	531,501	---	---	---	---	2,545	531,501
Union of South Africa..	13,247	1,363,434	---	---	---	---	13,247	1,363,434
Australia	2	162	---	---	---	---	2	162
Canada...	780	293,858	137,734	9,105,325	217,254	4,813,867	355,768	14,213,050
Cuba.....	11	1,975	---	---	---	---	11	1,975
U.S.S.R.	2,625	174,183	---	---	---	---	2,625	174,183
United Kingdom..	1	610	---	---	---	---	1	610
	19,211	2,365,723	137,734	9,105,325	217,254	4,813,867	374,199	16,284,915

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FOR RELEASE JUNE 7, 1946.

MINERAL MARKET REPORTS
M. M. S. No. 1406.

TUNGSTEN IN 1945

The decline in tungsten production that began in May 1944 continued almost uninterruptedly through April 1945, according to the Bureau of Mines, United States Department of the Interior. Production was at a low monthly rate of about 340 short tons (60 percent WO_3) during the first four months of 1945. In May, however, the chemical-treatment plant at Salt Lake City (Utah) of the Office of Metals Reserve and the mill of Boulder Tungsten Mills, Inc., at Boulder, Colo., resumed operations and the new mill serving the Riley mine near Winnemucca, Nev., made its initial output. In July the chemical-treatment plant of United States Vanadium Corp. near Bishop, Calif., also resumed operations. Chiefly for these reasons, the monthly rate of production increased to an average of 600 tons during the five months May-September. As a consequence of lessened demand for tungsten following V-J day, output dropped to an average of about 480 tons during the last three months of 1945. Total production of tungsten concentrates was 5,666 short tons (60 percent WO_3) in 1945 compared with 10,260 tons (revised figure) in 1944. Shipments were 5,715 tons in 1945 compared with 10,283 tons (revised figure) in 1944. Domestic production was equivalent to only 38 percent of United States consumption in 1945.

General imports (receipts) of tungsten ore and concentrates were 9,078 short tons (60 percent WO_3 basis) in 1945 compared with 19,164 tons in 1944. Supplying 46 percent of the total, Bolivia was the chief source of imports in 1945; and Brazil (26 percent) furnished most of the remainder.

Consumption of tungsten concentrates was 14,900 short tons (60 percent WO_3 basis) in 1945 compared with 20,100 tons in 1944. During the first 8 months of 1945 consumption of concentrates was at a rate of 1,538 tons monthly, compared with a rate of 1,675 tons monthly in 1944. As a result of the lessened demand following the end of hostilities with Japan, consumption dropped to an average of 640 tons monthly during the last four months of 1945.

Prepared by Hubert W. Davis under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Tungsten ore and concentrates produced and shipped in the United States, 1944-45, by States 1/

State	Produced				Shipped from mines			
	1944		1945		1944		1945	
	Short tons, 60 percent WO_3	Units	Short tons, 60 percent WO_3	Units	Short tons, 60 percent WO_3	Units	Short tons, 60 percent WO_3	Units
Alaska.....	19	1,111	- - - -	- - - -	19	1,111	- - - - -	- - - -
Arizona....	24	1,439	97	5,848	29	1,738	97	5,848
California.	2,978	178,705	1,049	62,951	3,027	181,647	1,073	64,380
Colorado...	299	17,955	252	15,136	296	17,749	234	14,022
Idaho......	3,957	237,434	2,029	121,702	4,005	240,287	2,130	127,787
Missouri...	1	62	- - - -	- - - -	1	62	- - - - -	- - - -
Montana....	16	981	26	1,568	25	1,529	(2)	4
Nevada.....	2,747	164,796	2,065	123,902	2,665	159,924	2,038	122,249
New Mexico.	9	496	- - - -	- - - -	9	496	- - - - -	- - - -
North Carolina..	187	11,198	139	8,314	186	11,154	132	7,914
South Dakota....	3/ 8	3/496	3	189	3/ 7	3/421	4	226
Utah.......	9	564	5	319	9	564	5	319
Washington.	6	363	1	69	5	307	2	125
	3/10,260	3/615,600	5,666	339,998	3/10,283	3/616,989	5,715	342,874

1/ Excludes secondary concentrates produced as feed for chemical-treatment plants at Salt Lake City, Utah, and Bishop, Calif. Instead, the primary concentrates produced therefrom, as well as shipped, are included.

2/ 147 pounds.

3/ Revised figures.

General imports (receipts) of tungsten ore and concentrates in the United States, 1944-45, in pounds
(Source: U. S. Department of Commerce)

Country	1944		1945	
	Gross weight	Tungsten content	Gross weight	Tungsten content
Argentina.............	4,321,724	2,266,856	1,606,326	851,968
Australia.............	- - - - -	- - - - -	49,177	21,333
Belgian Congo.........	- - - - -	- - - - -	304,036	156,726
Bolivia...............	1/16,022,697	1/7,458,324	8,976,072	3,959,432
Brazil................	4,387,310	2,141,350	4,389,719	2,298,528
British East Africa...	- - - - -	- - - - -	22,141	12,292
Canada................	996,960	226,815	752	380
Chile.................	4,264	2,900	55,986	29,928
China.................	6,214,458	3,534,964	48,656	25,073
Cuba..................	- - - - -	- - - - -	18,795	8,926
India and Dependencies	162,660	90,720	65	33
Mexico................	733,499	383,245	350,463	130,120
New Zealand...........	- - - - -	- - - - -	270,414	128,899
Peru..................	1/5,066,525	1/2,133,723	669,347	335,000
Portugal..............	- - - - -	- - - - -	336,154	157,213
Southern Rhodesia.....	- - - - -	- - - - -	420,947	210,308
Spain.................	- - - - -	- - - - -	500,760	246,962
Union of South Africa.	- - - - -	- - - - -	127,362	66,253
	37,910,097	18,238,897	18,147,172	8,639,374

1/ Bureau of Mines estimates that about 82 percent of the quantity of ore and concentrates credited to Peru by the U. S. Department of Commerce originated in Bolivia.

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FOR RELEASE JUNE 17, 1946.

MINERAL MARKET REPORT
MMS NO. 1407

POTASH INDUSTRY OF THE UNITED STATES IN 1945.

More New Records in Potash

The Bureau of Mines, United States Department of the Interior, points out that more new records were made in 1945 in the potash industry of the United States, new highs being reached both in the production of marketable potassium salts and in sales. In 1945, 1,588,305 short tons of potassium salts containing 874,243 tons of equivalent potash were produced. A slightly larger quantity (1,597,160 tons), also a record, was sold; this material contained 870,370 tons of equivalent potash, according to reports of producers to the Bureau of Mines. Stocks of potassium salts in producers' hands at the end of 1945 were a little less than in 1944, but in terms of contained K_2O are reported to have been larger than in any recent year. Exports of fertilizer potash materials were less in 1945 than in 1944 but those for chemical uses were somewhat larger. Imports of potash materials for fertilizer purposes in 1945 were about half those in 1944, whereas those for chemical use were about double the imports for that use in 1944. Domestic consumption of potash again made a new high record - this time exceeding 800,000 short tons.

Potash Allocation Order M-291 was amended April 3, 1944, and extended for another 12 months. Effective March 22, 1945, however, all primary potash salts (muriate of potash, sulfate of potash, and sulfate of potash-magnesia) were removed from Allocation Order M-291 and placed in Schedule 98 under General Chemical Order M-300. This schedule was later revoked, effective September 30, 1945, and the above-mentioned potassium salts removed from allocation, but contract commitments for delivery made during the allocation period extended through March 31, 1946, delaying establishment of the order until after that date. Early in March, however, the Potash Producers Industry Advisory Committee recommended to the Civilian Production Administration that primary potash salts be put back under allocation until present excessive demands are reduced to more normal levels.

Prepared by Bertrand L. Johnson and D. I. Marsh, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

Salient statistics of the potash industry in the United States, 1943-45

	1943	1944	1945
Production:			
Potassium salts (marketable) .... short tons	1,428,840	1,578,498	1,588,305
Approximate equivalent, K_2O .... do.....	739,141	834,568	874,243
Sales by producers:			
Potassium salts .... do.....	1,401,271	1,543,420	1,597,160
Approximate equivalent, K_2O .... do.....	732,151	817,892	870,370
Value at plant	$26,183,073	$29,487,413	$30,313,919
Average per ton	$18.69	$19.11	$18.98
Imports:			
Fertilizer materials .... short tons	45,009	13,739	6,885
Approximate equivalent, K_2O .... do.....	17,005	3,760	3,870
Value	$1,287,022	$397,575	$230,714
Chemical materials .... short tons	419	5,402	10,327
Approximate equivalent, K_2O .... do.....	104	1,108	2,152
Value	$156,097	$1,650,776	$3,079,761
Exports:			
Fertilizer materials .... short tons	111,541	110,057	104,687
Approximate equivalent, K_2O[1] .... do.....	60,142	61,312	58,310
Value	$3,168,446	$3,139,851	$2,986,990
Chemical materials .... short tons	20,133	15,419	18,966
Approximate equivalent, K_2O[1] .... do.....	9,865	7,555	9,273
Value	$3,950,542	$3,098,565	$3,648,795
Consumption:			
Apparent consumption:[2]			
Potassium salts .... short tons	1,315,025	1,437,085	1,490,719
Approximate equivalent, K_2O .... do.....	679,253	753,893	808,809
Actual sales for consumption:			
Approximate equivalent, K_2O .... do.....	678,131	752,332	807,038

[1] Estimate by Bureau of Mines.

[2] Quantity sold by producers, plus imports, minus exports.

Outlook

World demand for potash appears to be in excess of supply, and it is expected that domestic production will be forced to continue for some time at a high rate in order to meet an enlarged food production program and foreign commitments. Present domestic potash mines can produce much more than normal peacetime requirements, and this surplus must, if maintained inevitably come into competition with the large European and Near East supplies, when the needs of the famine-stricken portions of the world have been met. The eventual availability of large foreign supplies will limit American participation in foreign markets and certain of these foreign potash-producing nations may enter the domestic market, especially if it is considered advisable in a long-range perspective to restrict domestic production to conserve our known potash reserves.

Domestic Reserves

The world potash industry is based primarily upon immense natural deposits of potassium chloride, principally in Germany and Russia. Any study of domestic reserves of this intensely competitive commodity, especially with the free importation of potash fertilizers into the United States, must take that fact into account. The development of a domestic industry based upon the higher unit-cost sulfate salts in competition with German and Russian chlorides would be difficult.

The domestic deposits of potassium chloride of present known commercial workability from which potash can be recovered profitably at the current level of prices are limited to four isolated sylvite deposits near Carlsbad, New Mexico, and to the natural brines of Searles Lake, California, and Salduro Marsh, Utah. Reserves of potassium sulfates of proved economic importance are limited to a langbeinite bed in the Carlsbad region, New Mexico. Most of the proved economically important potash deposits in the United States are in New Mexico. Compared with these the potash reserves in the workable brines of California and Utah are much less important.

A study of the potash reserves of the United States by Samuel H. Dolbear of Behre Dolbear & Co., consulting mining engineers and geologists, made for the American Potash Institute was released by the latter organization early in 1946. This report estimated the total known net recoverable reserves of potash in the brines and highly soluble salts in the United States at 73,000,000 short tons K_2O. It placed the economically recoverable reserves of New Mexico, in terms of merchantable potash salts produced, at only 58,000,000 tons K_2O in beds containing not less than 14 percent K_2O in salts of high solubility and not less than 4 feet in thickness. The actual lower limit of profitably workable beds in terms of grade and thickness is not stated, the lower limits used being those arbitrarily chosen in previous estimates. The above figure includes a considerable quantity of potash in mine pillars, which may or may not be recoverable in future operations. No evidence has been published indicating the existence in the New Mexico field of similar high-grade commercial deposits of either sylvite or langbeinite, and while they might exist and should be sought for, because of the perculiarly isolated spotty occurrence of the known commercial deposits in this field, other deposits if they existed would be very hard to locate. From the published data, no estimates of additional reserves in these at present hypothetical deposits appear justifiable.

Potash reserves in the brines of Searles Lake, San Bernardino County, California, were originally estimated by Gale and Hicks at 20 million tons of K_2O. The Dolbear report states that "further development has extended the amount stated in this estimate and potash in solution in the brines is still believed to be not less than 20 million tons after deducting past production", of which 14,000,000 tons is said to be definitely recoverable, assuming 70 percent extraction.

The above estimate may be somewhat high when the reserves in the lake are considered in the light of information given in a recent prospectus of the Alien Property Custodian in which the American Potash & Chemical Corporation states that as of July 1, 1945, the recoverable brine reserves in its fee and leased lands contained 8,561,874 tons of equivalent muriate of potash, 60 percent K_2O. This reduces to 5,137,124 tons of K_2O, of which only 60 percent can be extracted in the plant operations, or 3,082,275 tons of K_2O in merchantable potash salts. Regarding the lower grade brine reserves and the solid salts the investigations of the company had not reached a point which would permit any conclusions to be drawn as to the extent of the reserves or salts or the possibility of the utilization thereof on a commercial basis.

No estimates of the potash reserves in the 2,780 acre lease on the lake of the West End Chemical Company are available, but on a comparable basis, they might amount to 2,780,000 tons of equivalent muriate of potash, 60 percent K_2O, possibly capable of yielding approximately one million tons of K_2O in merchantable potash salts. The total potash reserves in the brines of Searles Lake recoverable in merchantable potash salts would therefore be about 4 million tons K_2O.

Regarding the reserves in the Salduro Marsh, Utah, the Dolbear report states that "the extent of these brines has been partly determined by drilling but there are no published estimates of reserves. Such figures as are available indicate a maximum amount of 1,700,000 tons of K_2O. Recoverable potash may amount to around 1,000,000 tons."

All potash resources in the United States other than those considered above have yet to be proved by actual commercial operations to be recoverable profitably at the current level of prices. These sources include the Grand County, Utah, sylvite deposits, polyhalite, greensands, shales, slates, wyomingite, cement kiln and blast furnace dusts, mine tailings, alunite, feldspar, distillery wastes, sea-water and kelp. These "strategic" or "potential" reserves are discussed in considerable detail in the Dolbear report and quantitative estimates given of the K_2O content obtainable from many of them.

Another Record in Production

Since 1934 an annual increase has occurred in the production and sales of domestic marketable potassium salts. The increase in 1945 over 1944 was not as large, however, as that shown in the latter year over 1943, either in the salts produced or in the sales. Production of potassium salts in 1945 totaled 1,588,305 short tons with an equivalent K_2O content of 874,243 tons. Sales were 1,597,160 tons with an equivalent K_2O content of 870,370 tons. Sales of potassium salts exceeded production and producers stocks decreased, but the contained K_2O content of the sales was less than that of the production as reported by the producers, and the K_2O content of the stocks increased and was larger than in recent years. The value of the sales exceeded thirty million dollars. The average value per ton of the potassium salts sold in 1945 was $18.98.

Production of both grades of muriate of potash, as shown in the table, was larger in 1945 than in 1944. Production of manure salts and the sulfate of potash and sulfate of potash-magnesia were, however, both much less.

Potash Producers

The potash-producing companies in the United States in 1945, by States, were as follows: -

California:

The American Potash & Chemical Corp.,
122 East Forty-second St.,
New York City. (plant at Trona, on Searles Lake, California.)

Maryland:

North American Cement Corp.,
41 East Forty-second Street,
New York City. (plant at Security, Md.)

New Mexico:

International Minerals & Chemical Corp.,
20 North Wacker Drive,
Chicago, Ill. (mine and plant near Carlsbad, N.M.)

Potash Company of America,
Carlsbad, N. M.
(mine and plant near Carlsbad, N. M.)

United States Potash Co., Inc.,
30 Rockefeller Plaza,
New York City. (mine and plant near Carlsbad, N.M.)

Utah:

Bonneville, Ltd.,
540 West Seventh South,
Salt Lake City, Utah. (plant near Wendover, Utah)

Kalunite, Inc.,
600 West 33rd South,
Salt Lake City, Utah. (mine at Marysvale, Utah).

Potassium salts produced, sold, and in producers' stocks in the United States, 1941-45

Year	Production			Sales				Producers' stocks		
	Operators	Potassium salts (short tons)	Equivalent as potash (K_2O) (short tons)	Operators	Potassium salts (short tons)	Equivalent as potash (K_2O) (short tons)	Value f.o.b. plant	Operators	Potassium salts (short tons)	Equivalent as potash (K_2O) (short tons)
1941	7	986,458	524,875	7	994,843	531,346	17,368,237	7	26,374	9,712
1942	7	1,267,455	679,206	7	1,277,317	680,831	22,962,518	7	14,158	6,041
1943	7	1,428,840	739,141	7	1,401,271	732,151	26,183,073	7	43,591	13,984
1944	6	1,578,498	834,568	6	1,543,420	817,892	29,487,413	6	76,123	29,763
1945	7	1,588,305	874,243	6	1,597,160	870,370	30,313,919	7	68,796	34,253

Potassium salts produced in the United States, 1943-45, by grades, in short tons

Grade	1943	1944	1945
Muriate of potash:			
60-62 percent K_2O minimum 1/	934,961	1,082,132	1,258,332
48-50 percent K_2O minimum	99,137	114,550	117,677
Manure salts, run-of-mine	242,189	217,560	115,798
Sulfate of potash and sulfate of potash-magnesia	152,553	164,256	96,498
	1,428,840	1,578,498	1,588,305

1/ Includes refined potash.

Western States production still dominates the potash industry. California, New Mexico, and Utah furnished virtually all of the 1945 output, the larger part coming from the deeply buried Permian saline sedimentary deposits of the Carlsbad region of southeastern New Mexico. The Eastern States supplied only a small quantity - a byproduct of cement operations in Maryland.

Four States Yield Domestic Potash

Four States - California, Maryland, New Mexico and Utah - produced merchantable potash salts in 1945. The output of the individual States cannot be given (except for New Mexico, where there were three companies operating) without disclosing individual company returns. New Mexico was by far the largest domestic producer, furnishing 85 percent of the total. California, although a much smaller producer than New Mexico furnished considerably more than the combined output of the other two States.

Brine Lake Yields California Potash

The only potash producer in California, which is also the only one on the entire Pacific Coast, is the American Potash and Chemical Corporation (122 East Forty-second Street, New York City.) This company, recovering potash from the brine saturating the crystalline salt mass of Searles Lake in southeastern California, produces and markets potassium chloride and potassium sulfate.

The 478,194 shares (90.79 percent of those issued and outstanding) of the American Potash and Chemical Corporation, which had been vested by the Alien Property Custodian by Vesting Order No. 249 executed at Washington, D. C., on October 20, 1942, as amended, under the authority of the Trading with the Enemy Act, as amended, and Executive Order No. 9095, as amended, was sold by the Custodian on March 27, 1946, to a group of investment bankers.

On February 12, 1946, the United States instituted an action against the American Potash and Chemical Corporation in the District Court of the United States for the Southern District of California, Central Division, to cancel the company's leases, claiming certain violations of the anti-trust laws, and misrepresentation to the Department of the Interior of the citizenship of the holders of its stock. On the same day the company filed its answer denying the charges, and averring that the 90.79 percent of the capital stock of the company had been vested by the Alien Property Custodian. The Court entered a consent judgment which imposed certain restrictions upon the issuance and transferrability of certain shares of capital stock of the company, and also enjoined the Company, during the term of the leases and any extension thereof, from disposing of any of its property, or transferring direct or indirect control of any of its property, to any person, corporation or other business organization to whom issuance of stock is prohibited by the judgment, but excluded from such injunction sales of the Company's products and assets in the normal course of business. The judgment further provided for forfeiture of the leases upon proof of violation of any of the provisions of the judgment outlined above, or upon election or employment, as an officer or director of the Company, of any person to whom the issuance of stock of the Company is prohibited by the consent judgment. It also directed the execution of an amendment to each of the leases which incorporated therein substantially all of the provisions of the consent judgment and provided for forfeiture upon proof of violation of any of the provision of the lease as so amended. Each of the leases was amended in accordance with the directions of the judgment.

Byproduct Potash from Maryland

Only one company in Maryland produced potash in 1945. This was the North American Cement Corporation, of New York City, which recovered byproduct potash at its plant at Security, Washington County, near Hagerstown. The product, an impure sulfate of potash from the cement-kiln flue dust, was sold for agricultural use.

Carlsbad, N. Mex. Region Makes New Record

Mine production of potash salts in the Carlsbad region of New Mexico continued to increase in 1945, and again a new record was made. The three companies operating in this area mined 3,949,983 short tons of sylvinite and crude langbeinite combined—an increase of 200,733 tons over 1944, but a smaller increase than was made in 1944 over 1943. The K_2O content of the mine production in 1945 was 842,930 short tons. The average equivalent K_2O content of the mined salts increased but slightly, only from 21.33 percent in 1944 to 21.34 percent in 1945.

All three companies mined sylvite (potassium chloride) and one - The International Minerals and Chemical Corporation - mined also langbeinite (a potassium-magnesium sulfate). The greater part of the mine production was sylvite, most of which was processed to yield 60 percent or higher grade K_2O muriate. The production of merchantable potash salts in New Mexico in 1945 was 1,354,187 short tons, with an equivalent K_2O content of 738,782 tons. Sales were 1,360,189 tons with an equivalent K_2O content of 733,176 tons, and valued at $25,456,731. Muriate of potash was produced by all three companies. Potassium sulfate and potassium-magnesium sulfate (sulfate of potash-magnesia) were produced from crude langbeinite by the International Minerals and Chemical Corporation in the refinery at its mine near Carlsbad. Potassium sulfate was also produced by the Potash Company of America.

Utah's Two Producers

Commercial production of potash in Utah in 1945 was restricted to the potassium-bearing brines of Salduro Marsh, and to the alunite deposits of the Marysvale district. Bonneville, Ltd., continued to produce potassium chloride from the Salduro Marsh brines at its plant near Wendover, Tooele County, in northwestern Utah. Alunite mining operations were carried on in the Marysvale district, Piute County, by Kalunite Inc., (600 West 33rd South, Salt Lake City 8, Utah) at the White Horse mine at Marysvale. A small tonnage of alunite was mined in open cut operation. Several thousand tons of crude alunite, largely from mine stocks, were shipped to its Salt Lake City alumina plant, where it was milled together with a considerable tonnage from the stocks at that place. The Salt Lake City Plant was operated only on an experimental basis, most of the potash from the ore milled being used in building up to cyclic circulating load in the mill solutions. However, a few tons of potassium sulfate were produced, this representing the excess potassium sulfate in the crude ore milled over and above the actual potash reagent requirements. There were no sales of the products.

No development work is known to have taken place in 1945 in the Grand County potash field in eastern Utah.

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UNITED STATES DEPARTMENT OF THE INTERIOR

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For release June 11, 1946

MINERAL MARKET REPORT
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NITROGEN COMPOUNDS IN 1945

General Conditions

War, with its insistent call for nitrogen for munitions and the concomitant increased nitrogen requirements of an intensified agriculture and industry, demands immense supplies of this element. The Bureau of Mines, United States Department of the Interior emphasizes the fact that World War II, the greatest of all wars, created correspondingly great needs for nitrogen, far in excess of the capacity of domestic plants at the start of the war. Erection of many new synthetic nitrogen plants greatly increased the productive capacity and domestic output of nitrogen reached new peaks. Rising from only 450,000 tons in 1939 it exceeded a million and a quarter tons annually in the final years of the war. During the war agricultural and industrial consumption of nitrogen doubled, and military consumption rose from 59,000 short tons in 1941 to nearly 600,000 tons a year at the close.

The conclusion of major hostilities in 1945 was followed by the collapse of the military demand for nitrogen for munitions, the closing of several of the Government-owned synthetic nitrogen plants, and the diversion of the product from others to agricultural instead of military uses. The shift from war to peacetime conditions in the nitrogen industry is still in progress, hampered by industrial uncertainties and complicated by the sudden increased demand from famine-threatened countries for nitrogenous fertilizers, according to the Bureau of Mines.

Prepared by Bertrand L. Johnson; under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

Salient statistics of nitrogen compounds in the United States, 1944-45, in short tons.

	1944	1945
Production:		
Ammonia (NH_3):		
Synthetic plants: Anhydrous ammonia 1/	541,079	548,655
Byproduct coking plants:		
Aqua ammonia (NH_3) content	31,665	27,608 2/
NH_3 content of ammonium sulfate	204,561	190,802 2/
NH_3 equivalent all forms	236,226	218,410 2/
Ammonium sulfate:		
Synthetic plants	88,000	not available
Byproduct coking plants	818,244	763,206 2/
Sodium nitrate: Total synthetic and byproduct plants	not available	not available

1/ Data from monthly "Facts for Industry" series: Commerce Dept., Bureau Census; Civilian Production Administration; and War Production Board.

2/ Preliminary figures.

Nitrogen compounds imported and exported by the United States, 1943-45, in short tons

	1943	1944	1945
Imports			
Industrial chemicals:			
Anhydrous ammonia	5,863		4
Ammonium nitrate	53,256	(1/)	(1/)
Fertilizer materials:			
Ammonium sulfate	99,827	103,628	118,890
Calcium cyanamide	125,634	101,366	141,057
Ammonium nitrate mixtures containing 20 per cent or more nitrogen	2,895	317	655
Nitrogenous materials, n.s.p.f.	63,372	112,521	135,010
Ammonium phosphates	43,987	91,943	92,757
Sodium nitrate	761,165	712,434	849,888
Sodium-potassium nitrate	19,767	9,407	
Exports:			
Industrial chemicals:			
Anhydrous ammonia	1,983	3,623	4,312
Aqua ammonia	6,812	2,499	2,715
Ammonium nitrate	2/9,534	13,454	9,845
Fertilizer materials:			
Ammonium sulfate	78,005	10,615	20,752
Calcium cyanamide		(1/)	(1/)
Nitrogenous chemical materials, n.e.s.	2/13,215	11,175	83,974
Sodium nitrate	6,740	11,435	12,229

1/ Less than 1 ton

2/ Revised figure

OUTLOOK

The reconversion period following World War II finds the United States with a tremendous domestic nitrogen productive capacity of 1,500,000 to 1,700,000 short tons of nitrogen annually, which combined with annual net imports of 200,000 to 300,000 tons could make available supplies of 1 3/4 to 2 million tons of nitrogen per year. This capacity is more than double prewar domestic consumption, and far in excess of present needs, which the most favorable estimates place at less than 1,200,000 tons. The domestic plant capacity is enough to make the United States more than self-sufficient in nitrogen except where cyanamide from Canada and natural nitrates from Chile are specifically demanded. As the combination of existing privately-owned plants and imports does not appear to be able to meet domestic demands, except under depression conditions, some supplies from the Government-owned fixed nitrogen plants are deemed necessary. Many of these Government-owned plants have been declared surplus and their ultimate disposition is uncertain.

The total consumption of nitrogen in the immediate future is expected to be considerably less than that reached during the war. Munition requirements are expected to be relatively small. Industrial consumption, at a peak of over 300,000 tons in 1943-44, decreased slightly in 1944-1945, and may decline considerably further under unfavorable industrial conditions. The demand for fertilizer nitrogen will probably continue at a high level at least for a year or two, because of the world-wide food shortage.

INORGANIC NITROGEN COMPOUNDS

Natural Nitrates

Domestic nitrate deposits. - None of the deposits of soluble nitrate minerals scattered throughout the United States have yet proven to be of sufficient size or grade to serve as a basis for a domestic nitrate industry. Consequently, little attention has been paid to them in recent years, and none of the deposits is known to have been under investigation or development in 1945.

Chilean nitrate. - Large quantities of natural sodium nitrate continue to be imported from Chile. Imports in 1945 were much larger than in 1944. There was no sodium-potassium nitrate imported in 1945, however, although usually several thousands tons a year enter the United States from Chile. Imports in 1946 are expected to be much smaller than in 1945 because of the diversion of increased quantities to European markets and consequent lessening of supply available for the United States. Even with an expected increase of domestically produced synthetic sodium nitrate it is reported that the total amount of foreign and domestic supplies of sodium nitrate available for agriculture in the crop year 1945-46 will probably not exceed 75 percent of the tonnage delivered to agriculture in the season of 1944-45 in the States east of the Rocky Mountains.

During the war in order to maintain the movement of sodium nitrate from Chile, and to sell the product below the ceiling of the Office of Price Administration a wartime subsidy ranging upward to about $7 a ton was paid; the United States Government thereby absorbed some of the increased production and shipping costs. This practice, however, is reported to have been discontinued in July 1945.

During the first nine months of 1945 imported sodium nitrate was allocated under Schedule 80 (Nitrogen Compounds) of General Allocation Order M-300 of the

War Production Board, which governed the distribution of nitrogen compounds. With the easing of wartime restrictions on business, this order was revoked as of September 30, 1945 and imported sodium nitrate, with the other "nitrogen compounds", was removed from allocation. Allocation has been necessary because of the insufficiency of the supply of sodium nitrate for full agricultural requirements. Its use in the United States east of the Rocky Mountains was restricted to direct application to the soil as side and top dressings. Little was allotted to mixed fertilizers.

Sodium nitrate imported for consumption in the United States, 1941-45

Year	Chile		Total		Year	Chile		Total	
	Short tons	Value $	Short tons	Value $		Short tons	Value $	Short tons	Value $
1941	610,561	10,868,222	610,569	10,868,568	1944	712,434	15,304,946	712,434	15,304,946
1942	899,090	17,180,780	899,150	17,183,425	1945	849,888	18,558,959	849,888	18,558,959
1943	761,165	15,188,787	761,165	15,188,787					

Sodium-potassium nitrate (all from Chile) imported for consumption
in the United States, 1941-45

Year	Short tons	Value	Year	Short tons	Value
1941-------	34,541	$725,846	1944-------	9,407	$278,534
1942-------	14,272	377,703	1945-------	...	...
1943-------	19,767	580,760			

Prices of imported sodium nitrate at the wholesale leval throughout 1945 were covered by Revised Maxium Price Regulation 205 of June 30, 1944, and amendment 4 to that regulation effective November 16, 1944. Retail prices of agricultural sodium nitrate were covered by Second Revised Maximum Price Regulation 135, and amendments up to No. 4 (effective Nov. 26, 1945).

Early in 1946 the Federal Trade Commission announced that a monopoly complaint against the Chilean Nitrate Sales Corporation and the Barrett Co., both of New York, charging them with conspiring to monopolize the sale of raw nitrate of soda, had been "dismissed without prejudice".

On April 3, 1945, the State Department announced the results of discussions between the United States and Chilean delegations at the recent Inter-American Conference on Problems of War and Peace at Mexico City, regarding the operation and disposal of synthetic nitrogen plants owned by the government of the United States.

Synthetic Nitrogen Compounds.

General. - Ammonia and certain other nitrogen compounds were assembled December 26, 1944 under General Allocation Order M-300, Schedules 79 (Synthetic Ammonia) and 80 (Nitrogen Compounds) as appendix B materials. The nitrogen compounds listed under Schedule 80 were ammonium sulfate, sodium nitrate, ammonium nitrate (fertilizer grade), calcium cyanamide, ammonium phosphate (fertilizer grade), ammonium nitrate mixtures, mixed nitrogen sulutions, B liquors, urea mixtures of 42 percent nitrogen (including "Uramon" but not including food grade urea). On February 7, 1945, Schedule 80 was amended so as to substitute aqua ammonia (A,B, &C liquors) for B liquor. These schedules governed the distribution of the commodities above specified for the first nine months of 1945, but they were then revoked and the commodities referred to in them were removed from allocation as of September 30, 1945.

Ammonia and its compounds. - Early in 1945 nineteen synthetic ammonia plants are said to have been in operation in the United States. These included ten Government owned plants--the eight Ordnance plants, those of the Tennessee Valley Authority and the Defense Plant Corporation, and 9 private companies. The greater part of the production of the domestic private plants came from two, owned respectively by the E. I. du Pont de Nemours & Co., and the Allied Chemical & Dye Corp. These two plants account for about 90 percent of the total domestic private synthetic ammonia production capacity.

Following the cessation of hostilities in 1945 several of the Ordnance plants (Ohio River, Dixie, Buckeye, Jayhawk, Ozark, Cactus, and Morgantown) and the Defense Plant Corporation operation at Lake Charles, La., were declared surplus and were advertised for purchase or lease in September 1945, by the Reconstruction Finance Corporation. Since then the Ozark, Jayhawk, and Buckeye plants are reported to have been leased to commercial operators. Morgantown Ordnance and also the Missouri Ordnance are now being held by the Army for military standby. Pending army need the Missouri plant, near Louisiana, Mo., (less than 100 miles above St. Louis on the Mississippi River), has been taken over by the Bureau of Mines, United States Department of the Interior, for conversion to an experimental synthetic liquid fuel demonstration operation for the production of synthetic gasoline and oil from coal and lignite. All changes are to be so made that the plant may be reconverted to the production of ammonia should another emergency occur.

Part of Nitrate Plant No. 1 of the Tennessee Valley Authority at Muscle Shoals, Alabama, has been leased for ten years to the Reynolds Metal Co., of New York.

The ultimate disposal of the other Government-owned plants is still uncertain.

Production of domestic byproduct--coke ammonia liquor (NH_3 content) was 27,608 short tons (preliminary) compared with 31,665 tons in 1944. Sales were 25,644 tons (preliminary) in 1945 compared with 30,004 tons in 1944.

Ammonium sulfate is one of the principal sources of nitrogen used in mixed fertilizers, and virtually all that is produced goes into fertilizers. Lower production, greater sales, and decreased stocks characterized the ammonium sulfate industry in 1945. The output of byproduct ammonium sulfate decreased from 818,244 short tons in 1944 to 763,206 short tons (preliminary figure) in 1945, a decline of 55,038 tons, whereas sales in 1945 increased from 776,962 tons in 1944 to 800,969 tons (preliminary) in 1945. Stocks were cut more than one-half, decreasing from 69,031 short tons at the end of 1944 to 32,164 tons (preliminary) at the close of 1945.

Maximum prices of ammonium sulfate at the wholesale level are still fixed by Revised Maximum Price Regulation 205 of June 30, 1944 and later amendments of the Office of Price Administration.

Ammonium nitrate results from the neutralization of nitric acid with ammonia. The domestic production before World War II was only a few thousand tons a year, and a large proportion of the domestic consumption was imported. During the war, however, production and consumption in the United States greatly increased, and because of the continued shortage from domestic sources large quantities were imported from Canada. Munition requirements had preference but large quantities were diverted to agricultural use to supplement the inadequate supplies of other inorganic nitrogen materials. Ammonium nitrate is a present and possibly a permanent competitor of sodium nitrate and ammonium sulfate, which formerly dominated the business of top-dressing and side-dressing of crops.

Domestic production comes from both Government-owned and private plants. Four of the Government's fixed nitrogen plants have facilities for producing ammonium nitrate solutions; their combined capacity is rated at 55,000 tons of 100 percent ammonium nitrate per month. These plants are the Buckeye Ordnance Works, South Point, Ohio; the Ozark Ordnance Works, El Dorado, Arkansas; the Jayhawk Ordnance Works, Baxter Springs, Kansas, and the Tennessee Valley Authority, Muscle Shoals, Alabama. The ammonium nitrate solution from the ordnance plants is shipped to plants with graining facilities for conversion into fertilizers in solid form. Thirteen of the Government-owned ammunition-loading plants contain facilities for graining ammonium nitrate. Late in 1945 five of these plants were producing solid ammonium nitrate crystals for sale to the Commodity Credit Corporation for resale as fertilizer. These plants were the Wolf Creek, Milan, Tenn.; Louisiana, Minden, Alabama; Kansas, Parsons, Kansas; Lone Star, Texarkana, Tex. and Cornhusker, Grand Island, Nebr. In these five plants, near the end of 1945, ammonium nitrate was being grained at the rate of 100,000 tons of nitrogen per year. The other ammunition-loading plants had operated their grainers for short periods at one time or another, but at the end of the year had been shut down for a considerable period. The Tennessee Valley Authority operated its own fertilizer producing facilities at Muscle Shoals, Ala. Late in 1945 ammonium nitrate solution facilities were being installed at the Defense Plant Corporation plant at Lake Charles, La., operated by the Mathieson Alkali Company. The Hercules Powder Company, Hercules, California, and the Allied Chemical & Dye Corporation are also reported to have been manufacturing ammonium nitrate.

The distribution of the ammonium nitrate being produced in Government-owned plants for use in the manufacture of fertilizers was placed on February 1, 1944, in the hands of the Commodity Credit Corporation, which in turn designated Associated Cooperatives, Inc., as its agent in the distribution of the material. In 1945, the Commodity Credit Corporation continued to purchase the solid ammonium nitrate crystals produced in the Government-owned ammonium-nitrate-graining plants for resale as fertilizer material for domestic consumption and for export. The distribution in the United States of the imported Canadian product is reported to be done by a private domestic company.

Sodium nitrate. - The synthetic sodium nitrate consumed in the United States has, in the past, come from both domestic and foreign sources. From 1928 to 1945 the domestic production has come from a single unit- the Hopewell (Va.) plant of the Allied Chemical & Dye Corporation. In addition to the synthetic sodium nitrate from this source small amounts were also imported from Germany and Canada in the period before World War II. The total annual prewar consumption of sodium nitrate (both natural and synthetic) is reported to have been approximately one million tons of which 15 percent was consumed by industry (all synthetic) and the remaining 85 percent by agriculture (both natural and synthetic) indicate a domestic consumption of synthetic sodium nitrate at that time in excess of 150,000 tons a year.

During the recent war little foreign synthetic sodium nitrate entered the United States and the supply came almost entirely foom the Hopewell plant. Little information is available regarding the current production or utilization of domestically produced synthetic sodium nitrate but it is reported in the trade journals that production in 1945 is expected to be somewhat larger than in 1944.

Synthetic sodium nitrate has been under allocation, as was the natural product, under schedule 80 (Nitrogen Compound) of General Allocation Order M-300 of the War Production Board and was under the same restrictions as to use. Early in September, 1945, this order was revoked and synthetic sodium nitrate was removed from allocation as of September 30, 1945.

Prices of synthetic sodium nitrate remain under revised Maximum Price Regulation No. 205, of the Office of Price Administration. Second Revised Maximum Price Regulation 135 (including amendments 1-4), covered retail prices of agricultural sodium nitrate during 1945.

About mid-1945 it was announced by the War Production Board that Holston (Kingsport, Tenn.) byproduct sodium nitrate would be available during the latter part of the year for use in mixed fertilizers.

ORGANIC MATERIALS

Restrictions in the use of chemical nitrogen early in World War II so increased the demand for organic nitrogen bearing materials that it became necessary, in order to secure equitable distribution, to institute governmental control of sales. On May 7, 1943, the War Food Administration issued Food Production Order 12, effective May 1, 1943, banning purchase of these materials by fertilizer manufacturers without prior approval of the director of food production. A month later a revised Food Production Order 12, effective June 1, 1943 to July 1, 1944, limited the amount of the materials that could be used as fertilizer. The broad general War Food Order 12 was revoked on July 1, 1944, and replaced by more limited War Food Order 105, covering only edible oilseed meals or cake. Restrictions are retained on these because of the heavy requirement for them for livestock feed, which remains the dominant factor in the situation. The order also contained provisions governing the distribution for fertilizer use of edible type oilseed meals of inedible quality. This order was revised and amended in Amendment 1, on June 30, 1945, effective period to be July 1, 1945, to June 30, 1946, and individual purchasers were restricted to the same proportion of the total quantity of edible oilseed meal made available for fertilizer purposes as the proportion which such person used for fertilizer purposes of the total quantity used by all applicants for such purposes during the period July 1, 1941 to June 30, 1942.

Calcium cyanamide ($CaCN_2$) is of importance to the domestic nitrogen industry as a competing source of nitrogen. It is not produced in the United States but is imported in considerable quantities each year from Canada, where it is produced at Niagara Falls, Ontario, by the North American Cyanamid, Ltd., wholly owned subsidiary of the American Cyanamid Company, in a plant leased from the parent company. It is marketed under the trade name Cyanamid for both agricultural and industrial uses. Imports in 1945 were 141,057 short tons. Cyanamid was under allocation with other nitrogen compounds during most of 1945 under Schedule 80 (Nitrogen Compounds) of General Allocation Order M-300 of the War Production Board. This schedule however, was revoked and cyanamide removed from allocation as of September 30, 1945.

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FOR RELEASE JUNE 11, 1946

MINERAL MARKET REPORT
MMS NO. 1409

FULLER'S EARTH INDUSTRY IN 1945

Sales of fuller's earth in the United States in 1945 totaled 296,368 tons, according to reports of producers to the Bureau of Mines, United States Department of the Interior. Since 1940 the industry has recovered most of the volume lost during the depression and output is nearing the record of 335,644 tons set in 1930.

Although sales of fuller's earth for rotary drilling mud decreased in 1945, there were increases in all of the other major uses. Producers reported that 65 percent was consumed in mineral oil refining and 9 percent in vegetable oils. Absorbent uses, such as removing oil from factory floors, have steadily increased in volume since 1942, and in 1945 consumed 19 percent of the total output.

The Georgia-Florida district produced 45 percent of the total, and the largest output of any State came from Texas, which furnished 35 percent of the total. The average value rose from $11.19 in 1944 to $11.69 in 1945.

Fuller's earth sold or used by producers in the United States, 1943-45, by States

State	1943		1944		1945	
	Sh. tons	Value	Sh. tons	Value	Sh. tons	Value
Florida and Georgia	105,647	$1,444,936	128,654	$1,833,682	134,401	$1,939,035
Illinois	39,500	372,024	42,277	390,346	43,664	403,084
Texas	94,137	728,141	111,212	916,159	103,076	931,878
Other States 1/ ...	7,974	118,926	12,594	156,877	15,227	189,916
	247,258	2,664,027	294,737	3,297,064	296,368	3,463,913

1/ Includes California, Nevada, Tennessee, and Utah.

Prepared by G. W. Josephson and A. Linn, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division; Economics and Statistics Branch.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

For release June 12, 1946

MINERAL MARKET REPORT
MMS No. 1410

MINERAL EARTH PIGMENTS AND MANUFACTURED IRON OXIDE PIGMENTS IN 1945

Total iron oxide and earth pigment sales by domestic processors increased over 1944 sales despite sharp drops in military end uses in the last half of 1945, according to figures submitted by processors to the Bureau of Mines, United States Department of the Interior. Direct sales from processors to the Army are said to have been negligible since 1944, and direct sales to the Navy paint plants, although substantial in early 1945, declined to a very small volume later in the year. The loss of military orders was more than compensated by revival in demands from peacetime industries, mostly paints, linoleum, and mortar colors. The unusually large sales of red oxides presaged a general painting of farm buildings and box cars. The only iron oxide pigments which were in easy supply at the end of 1945 were the yellows, both natural and synthetic, owing to the lowered requirements for olive drab paints.

Mineral Pigments Corporation, Muirkirk, Md., announced that it was erecting a plant for the production of pure red oxides from metal. The oxides are said to have an extremely fine particle size and an almost complete absence of soluble salts.

Receipts of Spanish red oxide were reported regular but small, owing to transport difficulties in the interior of Spain. Most domestic processors have been offering replacements for Spanish oxide for several years. French ochers were still off the market, and Italian siennas were said to be available only in small quantities and at high prices. Small amounts of pure oxides from Great Britain were imported in 1945, but at high prices. Turkey umbers from Cyprus livened the foreign pigment situation late in 1945, when supplies became available in quantity. Persian Gulf oxide has been off the market almost completely since 1940 but importers are hopeful that shipments will be resumed in 1946.

Sales data are given in the following table:

Prepared by Charles L. Harness and F. L. Gradijan, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

Natural mineral pigments and manufactured iron oxide pigments sold by processors in the United States, 1944-45, by kinds

Pigment	1944		1945	
	Short tons	Value	Short tons	Value
Mineral blacks	3,388	$94,192	2,960	$61,388
Precipitated magnetic blacks	1,110	191,238	(1/)	(1/)
Natural brown oxides (metallic browns)	7,201	329,721	6,569	290,011
Vandyke brown (finished pigment)	162	19,658	284	52,084
Sap brown	453	98,095		
Pure brown (96 percent or better iron oxides)	1,025	195,281	(1/)	(1/)
Natural red oxides	19,267	795,895	18,051	714,856
Pure red oxides (98 percent or better Fe_2O_3)	9,948	1,788,136	13,347	2,457,565
Venetian reds	8,184	595,558	8,954	650,815
Pyrite cinder	494	31,561	679	42,545
Other red iron oxides	6,539	557,505	11,064	1,050,695
Natural yellow oxides (high Fe_2O_3)	4,403	157,911	(1/)	(1/)
Pure yellows (85 percent or better Fe_2O_3)	16,082	2,210,436	14,060	1,913,609
Ochers (low Fe_2O_3)	9,547	332,846	11,018	361,441
Siennas:				
Burnt	762	100,870	853	109,498
Not burnt	2,314	280,824	2,563	306,621
Umbers:				
Burnt	1,654	96,513	2,685	232,899
Not burnt	4,126	120,242	(1/)	(1/)
Other	359	19,970	7,927	581,147
	97,018	8,016,452	101,014	8,825,174

1/ Included under "Other."

The table listing total sales by States customarily shown in this section is omitted because only one State (Pennsylvania) can be shown separately, amounting to 31,680 short tons valued at $3,197,835. States which could be shown separately in 1944 were Georgia, 6,216 tons, $128,659, and Pennsylvania 34,995 tons, $3,035,145.

The following pigment processors contributed 1945 production data given in the preceding table. Their jobbing activities, if any, were not included.

American Dyewood Co., Belleville, N. J. (Plant at Malvern, Ark.)
American Pigment Corporation, Hiwassee, Va. (Plants at Hiwassee and Pulaski, Va.)
Blue Ridge Talc Co., Inc., P. O. Box 7, Henry, Va.
Calco Chemical Div., American Cyanamid Co., Bound Brook, N. J. (Plants at Bound Brook and Newark, N. J.)
Clinton Metallic Paint Co., Box 278, Clinton, N. Y.
Forche & Smith, Falls Creek, Pa.
Keystone Filler & Mfg. Co., Muncy, Pa.
Magnetic Pigment Division, Columbian Carbon Co., 41 E. 42d St., New York 17, N. Y. (Plants at Trenton and Monmouth Junction, N. J.)
Geo. S. Mepham Corporation, 2001 Lynch Ave., East St. Louis, Ill.
Micronized Products, Inc., Charlotte, Mich.
Mineral Pigments Corporation, Washington Blvd., Muirkirk, Md.
Minnesota Mining & Manufacturing Co., 900 Fauquier Ave., St. Paul, Minn. (Plant at Copley, Ohio.)
National Aluminate Corporation, 6216 W. 66th Place, Chicago 38, Ill. (Plant at Bowman, N. Dak.)
New Riverside Ochre Co., Cartersville, Ga.
Penn Paint & Filler Co., Antes Fort, Pa.
Prince Manufacturing Co., Bowmanstown, Pa.
Reichard-Coulston, Inc., 15 E. 26th St., New York 10, N. Y. (Plant at Bethlehem, Pa.)
Ricketson Mineral Color Works, 229 E. Wisconsin Ave., Milwaukee 2, Wis.
Seminole Pigment Co., Easton, Pa. (Plant at Warren, Ohio.)
Smith Chemical Works, Maple Park, Ill.
Solomon Grinding Service, 1116 Ridgely Building, Springfield, Ill.
Synthetic Iron Color Co., P. O. Box 1157, Richmond, Calif.
C. K. Williams & Co., 640 N. 13th St., Easton, Pa.
C. K. Williams & Co. of Calif., Ltd., 4650 Shellmound St., Emeryville 8, Calif.

PRICES

Prices of finished earth pigments, which are quoted in cents per pound, were generally unchanged during 1945, according to the Oil, Paint, and Drug Reporter. Precipitated magnetic blacks, in barrels, carlots, works, were quoted at 8½; metallic brown were 2½; synthetic (pure) browns, 12; siennas, American type, 3-3/4 to 5; Italian-type burnt siennas, 8-3/4 to 10-3/4; raw siennas, American type, 4 to 10; raw siennas, Italian type, 8 to 10; Turkey-type umbers, 4-3/4 to 5-7/8, depending on point of purchase; synthetic (pure) red iron oxides, 9 to 9-3/4; Venetian reds, 2.2 to 4, depending on iron oxide content; natural (metallic) red oxide, 2; natural yellow oxides, high iron, 4½ to 6¼; synthetic (pure) iron oxide yellows, 6.85; and domestic French-type ochers, 8.45.

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July 1946

MINERAL MARKET REPORT
M. M. S. No. 1411

BITUMINOUS COAL DISTRIBUTION

YEAR ENDED SEPTEMBER 30, 1945

Prepared by Economic Analysis Section, Coal Economics Division, Economics and Statistics Branch, Bureau of Mines, in cooperation with the Solid Fuels Administration for War.

BITUMINOUS COAL DISTRIBUTION, YEAR ENDED SEPTEMBER 30, 1945

The following tables, covering the year ended September 30, 1945, have been compiled from reports rendered by producers of bituminous coal and lignite for each mine producing an average of 50 tons or more per day, or mines having direct rail or river shipping facilities regardless of tonnage produced, dock operators, and transshippers of coal moving via the Great Lakes and tidewater, pursuant to Solid Fuels Administration for War Order No. 3 and Amendment No. 1 thereto. Under that order, producers file monthly reports on Form S.F.A. No. 38 for bituminous coal and Form S.F.A. No. 56 (North Dakota, South Dakota, and Texas) for lignite, showing production and distribution of coal from each mine producing an average of 50 tons per day or more, or having direct rail or river shipping facilities, regardless of tonnage produced, identified by States and market areas of destination, uses, sizes, and methods of movement. Dock operators file similar distribution information monthly on Form S.F.A. No. 48 with respect to coal shipped from the docks. All persons ordering or directing the transshipment of coal at Lake or tidewater dumping piers file cargo manifests, invoices, summary reports, or other documents covering the movement of coal from the port of dumping to the port of receipt.

The data submitted in these tables have been abstracted from mechanical tabulations of the reports that have been rendered by the parties described and include such tonnages as were reported at the time the tabulations were closed. They have a coverage representing 94 percent of the total production. Production and distribution data not accounted for in the tables originate at mines with an average of less than 50 tons daily production, which have no direct rail or river shipping facilities, and from which reports are not required, together with tonnages from certain large mines and docks delinquent in filing.

It will be noted that certain tonnages described as "unknown" and "not reported" appear throughout the tables. These items represent the accumulation of tonnages for which respondents failed to report pertinent information such as district of origin, State of destination, size group, and use; replies to correspondence requesting such information had not been received at the time the tabulations were prepared

Tonnages are shown in net tons of 2,000 pounds.

TABLE 1. - DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 AS REPORTED ON FORMS S.F.A. NOS. 38, 48, AND 56, AND CARGO MANIFESTS, INVOICES AND SUMMARY REPORTS

In this table are shown (a) the total production for each producing district as reported on Forms S.F.A. Nos. 38 and 56, and (b) the total shipments to consumers, distributed by States of destination and uses. Destinations are not shown for railroad fuel. Only for byproduct and beehive coke oven and smithing use are destinations reported for truck shipments. The truck tonnages for which destinations were reported are included in the all-rail, river and ex-river data for statistical convenience.

Shipments from each producing district to State of destination and for each use therein are shown for coal moving all-rail, river, and ex-river for all uses except railroad fuel and in the case of coal for coking purposes and for smithing use, for all movements except Lake and tidewater. Following a subtotal of these tonnages, there are shown by producing districts the tonnages of railroad fuel shipments, tidewater and Lake shipments, shipments by truck, shipments to such distributors and wholesalers who failed to furnish information as to the final destination and use, shipments by private railroads, tramways and conveyors, tonnages of coal used in and around the mines (including coal used to produce coal, coal used by mine employees, and coal made into briquets or packaged fuel), other disposals by methods not specifically outlined, net change in mine inventories, and the total production reported.

Item 13 has the estimated residual part of truck production, the product of mines which are not required to report on Forms S.F.A. Nos. 38 and 56, for the year ended September 30, 1945. These estimates are based on the total production of truck mines during 1944. They represent approximate activity of this class of mine during the year ended September 30, 1945. The estimates represent total truck tonnages for 1944 less (a) tonnages included in rail, river, and ex-river movement for shipments by truck to byproduct and beehive coke ovens away from the producing mine and for smithing use, and (b) truck tonnage shown in Item 7.

In order to show the total coal distribution by States of destination by all movements, and by consumer uses, there has been included in this table a summary by States of destinations and uses of waterborne coal moving to consumers via the Great Lakes and tidewater. These data exclude shipments to storage docks that have not been reported as being transshipped to a consumer. As explained in the footnote to this section of the table, the tonnages shown represent the distribution of coal to consumers during the period reported that moved from the mines by Lakes and tidewater. In the final column are shown the tonnages of total shipments by all movements and for all uses. In comparing the grand total distribution arrived at in the last column with the grand total of the distribution and production from the mines, it is pointed out that the total distribution of total production reported on Forms S.F.A. Nos. 38 and 56 covers shipments to Lake and tidewater as reported by producers and includes coal in transit to and at the dumping piers, that delivered to storage docks, and coal moving inland to storage piles, while the grand total distribution includes shipments made to consumers during the period. During this fiscal year producers reported shipping to the Great Lakes 50,957,125 tons, while dock operators and transshippers moved to consumers total shipments of 54,610,517 tons. To tidewater, producers reported shipments of 38,632,971, and dock operators and transshippers reported moving to consumers only 36,236,957. A summarization of waterborne shipments via Lake and tidewater during this year shows there were moved to consumers 1,257,378 tons more than were moved to the dumping piers by producers, hence the difference in totals.

Certain transshippers are delinquent in filing data required, particularly with respect to movements of coal for account of Canadian distributors who themselves arrange for transshipment. The total reported shipments of bituminous coal to Canada during the year ended September 30, 1945 including railroad fuel, was 19,530,073 tons and accounts for 91 percent of the grand total shipments to Canada. Reported shipments of railroad fuel to Canada are included in Item 4, "Railroad Fuel."

Detail breakdowns of the Lake and tidewater shipments are shown in Tables 2 and 3.

TABLE 2. - SHIPMENTS OF BITUMINOUS COAL VIA TIDEWATER TO ALONGSIDE CONSUMERS AND EX-DOCK SHIPMENTS FROM COMMERCIAL DOCKS AS REPORTED ON CARGO MANIFESTS, INVOICES, SUMMARY REPORTS AND FORM S.F.A. NO. 48 DURING THE YEAR ENDED SEPTEMBER 30, 1945, BY DISTRICT OF ORIGIN, STATE OF DESTINATION AND USE.

This table provides the distribution of tidewater interport shipments to alongside consumers, by district of origin, State of destination, and use within the State. There are also shown the tonnages of coal moving off the commercial tidewater docks, by State of destination and by use. It is not possible, as a rule, to secure the district of origin on these ex-dock coals, and, therefore, they are shown only in total. The data represent the distribution of coal that moved from the mines via tidewater during the coal year to the State of consumption and by uses.

Following the detailed State analyses are the tonnages that moved for railroad fuel, bunker fuel, and export overseas, by district of origin, for alongside purchasers and total shipments ex-dock.

TABLE 3. - SHIPMENTS OF BITUMINOUS COAL VIA THE GREAT LAKES TO ALONGSIDE CONSUMERS AND EX-DOCK SHIPMENTS FROM COMMERCIAL DOCKS AS REPORTED ON CARGO MANIFESTS, INVOICES, SUMMARY REPORTS AND FORM S.F.A. NO. 48 DURING THE YEAR ENDED SEPTEMBER 30, 1945, BY DISTRICT OF ORIGIN, STATE OF DESTINATION AND USE

Here is listed the distribution of Great Lakes interport shipments to alongside consumers, by district of origin, State of destination, and use. There are also shown the tonnages of coal moving off the Upper Lakes commercial docks, by State of destination and use. As in the case of shipments from the tidewater docks, it is not possible, as a rule, to secure the district of origin on the ex-dock coals, and, therefore, they are shown in total only. The data represent the distribution of coal that moved from the mines via the Great Lakes during the year ended September 30, 1945 to the State of consumption and by uses.

Following the detailed State analyses and the United States total are the tonnages that move to Canada. The total reported interport movement for storage or consignment is shown for the reason that Canadian dock operators are not required and do not file reports of ex-dock shipments from commercial docks.

To complete the analysis of the total reported shipments, railroad and Lake vessel fuels are shown.

TABLE 4. - SHIPMENTS OF BITUMINOUS COAL AND LIGNITE DURING THE YEAR ENDED SEPTEMBER 30, 1945, BY DISTRICT OF ORIGIN, USE, CONSOLIDATED SIZE GROUP, AND METHOD OF MOVEMENT, AS REPORTED ON FORMS S.F.A. NOS. 38, 48, AND 56, AND CARGO MANIFESTS, INVOICES, AND SUMMARY REPORTS

For each producing district, there are indicated the total reported shipments and transshipments, by consolidated size groups, methods of movement, and consumer uses. Due to the fact that the district of origin of shipments off the docks on the Upper Lakes and Seaboard are not ascertainable, these tonnages are shown in total only for the Great Lakes and tidewater groups.

The five basic size groups for all movements and uses except the Great Lakes and tidewater ex-dock shipments are identical to those described below as being applicable in Table 6. In the case of Lake and tidewater ex-dock shipments, block, lump, egg, and stove sizes are included in Group 1; nut, pea, and stoker (including all coal shipped from the mine as stoker as well as dock-made stoker sizes) in Group 2; run of pile (including all coal except screenings and stoker which are loaded without rescreening) in Group 3; and screenings (including all resultants from screenings on the docks as well as screenings shipped as such from the mines) in Group 4. With no break reported as to sizes of screenings shipped ex-dock, the total tonnage of all screenings is reported in Group 4.

Consumer uses (other than byproduct and beehive coke oven coal trucked away from the producing mine, and smithing) are not reported for truck shipments or other disposals not specified, and, therefore, are shown only in total for the district. Coal used at the mines and the net changes in inventories are also shown in total in order to complete the analysis of the total tonnage reported by district of origin.

TABLE 5. - RECAPITULATION OF THE DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945, AS REPORTED ON FORMS S.F.A. NOS. 38 AND 56, BY DISTRICT OF ORIGIN, METHOD OF MOVEMENT, AND/OR USE

This table includes the summaries of the tonnages for each producing district by methods of movements and by uses as reported by the producers. The ratio of the coverage of the total for each district as compared with the production (final for the last three months of 1944 as reported in M.M.S. No.1359 and preliminary for January through September 1945 as reported in Weekly Coal Report No. 1480 of December 8, 1945) is also shown at the foot of the table.

TABLE 6. - PRODUCTION OF BITUMINOUS COAL AND LIGNITE BY CONSOLIDATED SIZE GROUPS DURING THE YEAR ENDED SEPTEMBER 30, 1945 AS REPORTED ON FORMS S.F.A. NOS. 38 AND 56

This table shows for each producing district the total tonnages broken down by five basic size groupings as described in the captions of Columns 1 through 5 of the table, by truck mines, for railroad fuel and all other movements and uses as reported on Forms S.F.A. Nos. 38 and 56. These basic groups of sizes with the exception of sizes 1 and 2 in District 3 follows the general descriptions of the size groups for District No. 1 as set forth in the minimum and maximum price schedules for that district . In District 3 size group 1 includes "lump coal and double screened coal with a bottom size larger than 2"." Size group 2 includes "lump and double screened coal with a bottom size 2" and smaller." In the case of basic group 3, domestic mine run, and screened and altered mine run, were included as these descriptions are used in other districts. These added grades of coal, however, do not include any sizes outside the descriptions for Size Group 3 in District No. 1. In basic groups 4 and 5, the only changes made from District 1 descriptions were the inclusion in each group of dedusted screenings which appear in the size group descriptions of certain districts.

In consolidating the size groups for all districts under the five basic groups described in the table, it was found that in some districts the maximum top and bottom size of certain size groups overlapped. In some instances, where the preponderant sizes of the size groups which overlapped were known, it was possible to determine the basic group within which most of the tonnage would fall. In certain instances of overlapping size groups where there was more than one such size which overlapped, the size group was included in the basic group on the basis of the maximum top size.

The sizes shown are those as reported on Forms S.F.A. Nos. 38 and 56 and are the sizes as shipped from the mines.

* * * * *

This publication was prepared by Joseph J. Gallagher and Columbus R. Gentile working under the general direction of Glen L. Parker. The editing of reports filed by producers, transshippers and dock operators and the preparation of basic statistical data was directed by Walter T. Kuzara and Florace C. Scalf under the direct supervision of Mark D. Miller. The analysis for the Bureau was made under the general supervision of T. W. Hunter, Chief, Economic Analysis Section, and W. B. Reed, Chief, Coal Economics Division.

TABLE 1

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 AS REPORTED ON FORMS S.F.A. NOS. 38, 48 AND 56 AND CARGO MANIFESTS, INVOICES AND SUMMARY REPORTS

(In Net Tons of 2,000 Pounds)

133892

REGION, STATE, AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. All-Rail, River and Ex-river 1/ (Excluding Railroad Fuel)															
New England															
Connecticut Total	687,135	53,556	260,027	296	-	-	42,112	44,035	-	-	-	-	-	-	-
Industrial	544,396	27,054	168,504	-	-	-	7,624	22,307	-	-	-	-	-	-	-
Retail Yards	142,548	6,582	91,364	296	-	-	34,488	21,728	-	-	-	-	-	-	-
Byproduct and Water Gas	-	19,920	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	191	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Use not Reported	-	-	159	-	-	-	-	-	-	-	-	-	-	-	-
Maine Total	45,849	12,576	72,627	759	-	-	39,260	28,338	-	-	-	-	-	-	-
Industrial	27,425	6,095	41,318	-	-	-	18,076	24,319	-	-	-	-	-	-	-
Retail Yards	17,380	5,362	31,309	759	-	-	21,184	3,375	-	-	-	-	-	-	-
Byproduct and Water Gas	-	1,119	-	-	-	-	-	129	-	-	-	-	-	-	-
Smithing	1,044	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Use not Reported	-	-	-	-	-	-	-	515	-	-	-	-	-	-	-
Massachusetts Total	1,654,040	123,722	612,728	361	-	-	333,551	259,834	-	-	-	-	-	-	-
Industrial	1,323,742	73,078	361,318	-	-	-	78,226	96,157	-	-	-	-	-	-	-
Retail Yards	326,796	30,589	190,845	361	-	-	222,180	77,543	-	-	-	-	-	-	-
Byproduct and Water Gas	-	20,055	3,329	-	-	-	-	82,264	-	-	-	-	-	-	-
Smithing	3,502	-	-	-	-	-	59	-	-	-	-	-	-	-	-
Use not Reported	-	-	57,236	-	-	-	33,086	3,870	-	-	-	-	-	-	-
New Hampshire Total	234,372	28,689	82,124	40	-	-	28,738	9,037	-	-	-	-	-	-	-
Industrial	168,687	23,800	36,112	-	-	-	19,985	3,030	-	-	-	-	-	-	-
Retail Yards	65,544	3,481	46,012	40	-	-	8,753	6,007	-	-	-	-	-	-	-
Byproduct and Water Gas	-	1,408	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	141	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rhode Island Total	57,526	3,945	56,778	118	-	-	49,573	21,786	-	-	-	-	-	-	-
Industrial	49,760	3,945	9,826	-	-	-	24,785	13,808	-	-	-	-	-	-	-
Retail Yards	7,604	-	44,479	118	-	-	15,554	2,561	-	-	-	-	-	-	-
Byproduct and Water Gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	162	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Use not Reported	-	-	2,473	-	-	-	9,234	5,417	-	-	-	-	-	-	-
Vermont Total	184,663	10,763	90,345	262	-	1,660	2,363	17,611	-	-	-	-	-	-	-
Industrial	142,393	6,542	65,779	262	-	1,660	-	16,125	-	-	-	-	-	-	-
Retail Yards	41,973	802	24,566	-	-	-	2,363	1,486	-	-	-	-	-	-	-
Byproduct and Water Gas	-	3,419	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	297	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 AS REPORTED ON FORMS S.F.A. NOS. 38, 48 AND 56 AND CARGO MANIFESTS, INVOICES AND SUMMARY REPORTS

(In Net Tons of 2,000 Pounds)

133892

REGION, STATE, AND USE	DISTRICT OF ORIGIN								Distribution of Total Production Reported on Forms S.F.A. Nos. 38 and 56	Waterborne Shipments via Lake and Tidewater 2/			Grand Total Distribution
	16	17	18	19	20	21	22	23		Great Lakes	Tidewater	Total	
1. All-Rail, River and Ex-River 1/ (Excluding Railroad Fuel)													
New England													
Connecticut Total	-	-	-	-	-	-	-	-	1,087,161	-	3,074,661	3,074,661	4,161,822
Industrial	-	-	-	-	-	-	-	-	769,885	-	1,894,345	1,894,345	2,664,230
Retail Yards	-	-	-	-	-	-	-	-	297,006	-	530,368	530,368	827,374
Byproduct	-	-	-	-	-	-	-	-	19,920	-	649,948	649,948	669,868
Smithing	-	-	-	-	-	-	-	-	191	-	-	-	191
Use not Reported	-	-	-	-	-	-	-	-	159	-	-	-	159
Maine Total	-	-	-	-	-	-	-	-	199,409	-	1,282,041	1,282,041	1,481,450
Industrial	-	-	-	-	-	-	-	-	117,233	-	916,856	916,856	1,034,089
Retail Yards	-	-	-	-	-	-	-	-	79,369	-	358,770	358,770	438,139
Byproduct and Water Gas	-	-	-	-	-	-	-	-	1,248	-	6,103	6,103	7,351
Smithing	-	-	-	-	-	-	-	-	1,044	-	312	312	1,356
Use not Reported	-	-	-	-	-	-	-	-	515	-	-	-	515
Massachusetts Total	-	-	-	-	-	-	-	-	2,984,236	-	6,617,256	6,617,256	9,601,492
Industrial	-	-	-	-	-	-	-	-	1,932,521	-	2,894,836	2,894,836	4,827,357
Retail Yards	-	-	-	-	-	-	-	-	848,314	-	1,922,732	1,922,732	2,771,046
Byproduct and Water Gas	-	-	-	-	-	-	-	-	105,648	-	1,799,688	1,799,688	1,905,336
Smithing	-	-	-	-	-	-	-	-	3,561	-	-	-	3,561
Use not Reported	-	-	-	-	-	-	-	-	94,192	-	-	-	94,192
New Hampshire Total	-	-	-	-	-	-	-	-	383,000	-	372,408	372,408	755,408
Industrial	-	-	-	-	-	-	-	-	251,614	-	223,772	223,772	475,386
Retail Yards	-	-	-	-	-	-	-	-	129,837	-	148,485	148,485	278,322
Byproduct and Water Gas	-	-	-	-	-	-	-	-	1,408	-	151	151	1,559
Smithing	-	-	-	-	-	-	-	-	141	-	-	-	141
Rhode Island Total	-	-	-	-	-	-	-	-	189,726	-	1,501,550	1,501,550	1,691,276
Industrial	-	-	-	-	-	-	-	-	102,124	-	326,549	326,549	428,673
Retail Yards	-	-	-	-	-	-	-	-	70,316	-	788,641	788,641	858,957
Byproduct and Water Gas	-	-	-	-	-	-	-	-	-	-	386,360	386,360	386,360
Smithing	-	-	-	-	-	-	-	-	162	-	-	-	162
Use not Reported	-	-	-	-	-	-	-	-	17,124	-	-	-	17,124
Vermont Total	-	-	-	-	-	-	-	-	307,667	-	26,325	26,325	333,992
Industrial	-	-	-	-	-	-	-	-	232,761	-	26,047	26,047	258,808
Retail Yards	-	-	-	-	-	-	-	-	71,190	-	278	278	71,468
Byproduct and Water Gas	-	-	-	-	-	-	-	-	3,419	-	-	-	3,419
Smithing	-	-	-	-	-	-	-	-	297	-	-	-	297

TABLE 1

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 (continued)

133892

REGION, STATE AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Middle Atlantic															
New Jersey Total	2,738,219	465,390	1,574,390	753	-	12,758	226,234	105,013	-	-	-	-	-	-	-
Industrial	2,410,019	396,039	1,241,301	-	-	4,930	107,198	81,251	-	-	-	-	-	-	-
Retail Yards	324,203	51,209	332,917	753	-	7,828	119,036	16,705	-	-	-	-	-	-	-
Byproduct and Water Gas	1,502	18,142	172	-	-	-	-	7,057	-	-	-	-	-	-	-
Smithing	2,495	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New York Total	6,899,458	4,411,547	3,890,916	189,881	-	171,970	128,187	93,484	-	-	-	-	-	-	-
Industrial	5,260,813	1,950,870	2,322,947	121,338	-	145,147	61,381	25,610	-	-	-	-	-	-	-
Retail Yards	705,421	300,811	461,353	68,543	-	26,823	41,516	7,822	-	-	-	-	-	-	-
Byproduct and Water Gas	928,188	2,159,818	1,106,616	-	-	-	25,015	60,052	-	-	-	-	-	-	-
Smithing	5,036	48	-	-	-	-	275	-	-	-	-	-	-	-	-
Pennsylvania Total	8,374,474	34,009,691	4,968,644	155,606	-	94,673	308,999	611,456	-	-	-	-	-	-	-
Industrial	4,828,925	8,119,875	2,655,799	86,691	-	55,507	33,659	237,976	-	-	-	-	-	-	-
Retail Yards	477,583	1,754,345	275,036	68,915	-	39,166	75,976	51,991	-	-	-	-	-	-	-
Byproduct and Water Gas 3/	3,060,492	24,134,269	2,037,643	-	-	-	199,087	318,799	-	-	-	-	-	-	-
Smithing	7,474	1,202	166	-	-	-	277	2,690	-	-	-	-	-	-	-
East North Central															
Illinois Total	16,201	8,917	48,936	6,870	-	-	4,930,506	3,215,526	894,715	26,176,327	3,587,247	-	41	13,998	609
Industrial	2,709	8,822	12,686	283	-	-	61,357	266,314	187,132	18,495,168	2,242,394	-	-	962	609
Retail Yards	8,992	95	36,250	6,587	-	-	3,557,456	1,747,262	707,583	7,373,891	1,289,445	-	-	13,036	-
Byproduct and Water Gas	-	-	-	-	-	-	1,306,261	1,201,524	-	307,268	55,408	-	-	-	-
Smithing	4,500	-	-	-	-	-	5,432	426	-	-	-	-	41	-	-
Indiana Total	3,448	1,579	51,020	75,828	-	-	3,393,530	8,523,837	676,858	1,936,797	8,791,924	-	1,516	-	-
Industrial	616	481	20,486	31,784	-	-	72,619	1,543,867	428,405	1,696,782	7,165,966	-	1,469	-	-
Retail Yards	738	536	30,534	44,044	-	-	923,408	3,682,149	248,453	240,015	1,625,958	-	-	-	-
Byproduct and Water Gas	-	454	-	-	-	-	2,396,365	3,297,821	-	-	-	-	-	-	-
Smithing	2,094	108	-	-	-	-	1,138	-	-	-	-	-	47	-	-
Michigan Total	58,275	274,319	231,089	1,240,814	42,302	-	3,594,218	8,904,349	46,236	404,182	117,700	-	-	-	-
Industrial	47,029	195,310	114,095	852,228	12,856	-	97,585	4,860,997	5,818	193,002	59,710	-	-	-	-
Retail Yards	10,002	18,084	116,241	375,697	29,446	-	3,357,749	3,802,852	40,418	211,180	57,990	-	-	-	-
Byproduct and Water Gas	-	60,925	753	12,889	-	-	137,512	240,500	-	-	-	-	-	-	-
Smithing	1,244	-	-	-	-	-	1,372	-	-	-	-	-	-	-	-
Ohio Total	367,686	8,258,762	3,496,512	10,611,108	-	816,828	6,081,416	16,456,072	12,366	632	35,383	-	-	-	-
Industrial	64,724	2,559,589	2,410,865	8,714,935	-	755,561	316,510	6,853,226	3,880	57	27,536	-	-	-	-
Retail Yards	8,249	480,163	888,427	1,892,573	-	61,267	2,552,620	6,049,415	8,486	575	7,847	-	-	-	-
Byproduct and Water Gas	291,057	5,205,761	197,220	3,600	-	-	3,207,634	3,390,919	-	-	-	-	-	-	-
Smithing	3,656	151	-	-	-	-	4,652	-	-	-	-	-	-	-	-
Storage	-	13,098	-	-	-	-	-	162,512	-	-	-	-	-	-	-

TABLE 1

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 (continued)

133892

REGION, STATE, AND USE	DISTRICT OF ORIGIN								Distribution of Total Production Reported on Forms S.F.A. Nos. 38 and 56	Waterborne Shipments via Lake and Tidewater 2/			Grand Total Distribution
	16	17	18	19	20	21	22	23		Great Lakes	Tidewater	Total	
Middle Atlantic													
New Jersey Total	-	-	-	-	-	-	-	-	5,122,757	-	4,910,045	4,910,045	10,032,802
Industrial	-	-	-	-	-	-	-	-	4,240,738	-	3,347,550	3,347,550	7,588,288
Retail Yards	-	-	-	-	-	-	-	-	852,651	-	1,669	1,669	854,320
Byproduct and Water Gas	-	-	-	-	-	-	-	-	26,873	-	1,560,826	1,560,826	1,587,699
Smithing	-	-	-	-	-	-	-	-	2,495	-	-	-	2,495
New York Total	-	-	-	-	-	-	-	-	15,785,443	3,160,546	9,524,004	12,684,550	28,469,993
Industrial	-	-	-	-	-	-	-	-	9,888,106	1,277,836	6,668,392	7,946,228	17,834,334
Retail Yards	-	-	-	-	-	-	-	-	1,612,289	37,508	1,206,240	1,243,748	2,856,037
Byproduct and Water Gas	-	-	-	-	-	-	-	-	4,279,689	1,845,202	1,649,372	3,494,574	7,774,263
Smithing	-	-	-	-	-	-	-	-	5,359	-	-	-	5,359
Pennsylvania Total	-	-	-	-	-	-	-	-	48,523,543	228,836	2,724,329	2,953,165	51,476,708
Industrial	-	-	-	-	-	-	-	-	16,018,432	-	2,296,188	2,296,188	18,314,620
Retail Yards	-	-	-	-	-	-	-	-	2,743,012	-	-	-	2,743,012
Byproduct and Water Gas 3/	-	-	-	-	-	-	-	-	29,750,290	228,836	428,141	656,977	30,407,267
Smithing	-	-	-	-	-	-	-	-	11,809	-	-	-	11,809
East North Central													
Illinois Total	-	-	-	-	-	-	-	-	38,899,893	2,079,681	-	2,079,681	40,979,574
Industrial	-	-	-	-	-	-	-	-	21,278,436	75,821	-	75,821	21,354,257
Retail Yards	-	-	-	-	-	-	-	-	14,740,597	84,180	-	84,180	14,824,777
Byproduct and Water Gas	-	-	-	-	-	-	-	-	2,870,461	1,919,594	-	1,919,594	4,790,055
Smithing	-	-	-	-	-	-	-	-	10,399	86	-	86	10,485
Indiana Total	-	-	-	-	-	-	-	-	23,456,337	4,632,521	-	4,632,521	28,088,858
Industrial	-	-	-	-	-	-	-	-	10,962,475	-	-	-	10,962,475
Retail Yards	-	-	-	-	-	-	-	-	6,795,835	-	-	-	6,795,835
Byproduct and Water Gas	-	-	-	-	-	-	-	-	5,694,640	4,632,521	-	4,632,521	10,327,161
Smithing	-	-	-	-	-	-	-	-	3,387	-	-	-	3,387
Michigan Total	-	-	-	-	-	-	-	-	14,913,484	11,790,478	-	11,790,478	26,703,962
Industrial	-	-	-	-	-	-	-	-	6,438,630	7,356,630	-	7,356,630	13,795,260
Retail Yards	-	-	-	-	-	-	-	-	8,019,659	1,184,624	-	1,184,624	9,204,283
Byproduct and Water Gas	-	-	-	-	-	-	-	-	452,579	3,247,427	-	3,247,427	3,700,006
Smithing	-	-	-	-	-	-	-	-	2,616	1,797	-	1,797	4,413
Ohio Total	-	-	-	-	-	-	-	-	46,136,765	435,223	-	435,223	46,571,988
Industrial	-	-	-	-	-	-	-	-	21,706,883	-	-	-	21,706,883
Retail Yards	-	-	-	-	-	-	-	-	11,949,622	1,216	-	1,216	11,950,838
Byproduct and Water Gas	-	-	-	-	-	-	-	-	12,296,191	434,007	-	434,007	12,730,198
Smithing	-	-	-	-	-	-	-	-	8,459	-	-	-	8,459
Storage	-	-	-	-	-	-	-	-	175,610	-	-	-	175,610

TABLE 1

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 (continued)

REGION, STATE AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Wisconsin Total	2,197	-	23,673	3,376	-	-	632,770	166,582	185,272	2,253,397	943,620	-	-	-	-
Industrial	159	-	10,495	3,026	-	-	4,547	13,738	152,106	1,719,448	864,990	-	-	-	-
Retail Yards	-	-	10,743	350	-	-	628,058	119,322	33,166	533,949	62,193	-	-	-	-
Byproduct and Water Gas	-	-	2,435	-	-	-	-	33,522	-	-	16,437	-	-	-	-
Smithing	2,038	-	-	-	-	-	165	-	-	-	-	-	-	-	-
West North Central															
Iowa Total	2,033	-	11,337	2,063	-	-	53,930	595,920	304,497	4,303,311	647,123	720,998	-	127,395	273,217
Industrial	-	-	46	-	-	-	487	2,458	47,217	1,924,982	297,628	584,046	-	30,425	72,639
Retail Yards	-	-	11,291	2,063	-	-	50,830	551,198	257,280	2,371,287	349,495	135,288	-	96,970	200,578
Byproduct and Water Gas	-	-	-	-	-	-	2,203	42,264	-	7,042	-	1,664	-	-	-
Smithing	2,033	-	-	-	-	-	410	-	-	-	-	-	-	-	-
Kansas Total	1,319	-	-	-	-	-	156	55	-	74,064	707	330	43	229,268	1,670,865
Industrial	-	-	-	-	-	-	-	55	-	18,444	707	-	-	74,814	1,078,216
Retail Yards	-	-	-	-	-	-	105	-	-	55,620	-	330	-	154,454	592,649
Smithing	1,319	-	-	-	-	-	51	-	-	-	-	-	43	-	-
Minnesota Total	5,541	-	1,879	441	-	-	81,126	41,584	68,947	1,173,462	139,501	317	-	56,360	10,710
Industrial	-	-	-	-	-	-	105	1,092	36,243	893,349	122,459	84	-	1,625	10,244
Retail Yards	-	-	1,879	441	-	-	80,930	40,492	32,704	280,113	17,042	233	-	54,735	466
Byproduct and Water Gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	5,541	-	-	-	-	-	91	-	-	-	-	-	-	-	-
Missouri Total	31,450	-	1,198	-	-	-	440,654	354,051	75,273	3,957,316	10,007	8,814	2,377	681,449	2,338,214
Industrial	3,187	-	1,198	-	-	-	1,124	15,748	61,698	1,897,107	5,747	-	54	34,014	1,272,679
Retail Yards	21,089	-	-	-	-	-	313,843	106,268	13,575	2,059,718	4,260	8,814	1,455	647,435	1,065,535
Byproduct and Water Gas	-	-	-	-	-	-	125,536	232,035	-	491	-	-	-	-	-
Smithing	7,174	-	-	-	-	-	151	-	-	-	-	-	868	-	-
Nebraska Total	1,309	-	-	-	-	-	664	1,182	9,300	215,556	6,839	37	-	181,975	894,593
Industrial	-	-	-	-	-	-	53	-	1,639	57,131	-	-	-	2,062	498,674
Retail Yards	-	-	-	-	-	-	611	1,182	7,661	158,425	6,839	37	-	179,913	395,919
Smithing	1,309	-	-	-	-	-	-	-	-	-	-	-	-	-	-
North Dakota Total	472	-	-	-	-	-	-	-	3,697	445	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	3,380	53	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	317	392	-	-	-	-	-
Smithing	472	-	-	-	-	-	-	-	-	-	-	-	-	-	-
South Dakota Total	753	-	-	-	-	-	5,239	2,142	11,271	144,539	3,700	-	-	30,617	17,391
Industrial	-	-	-	-	-	-	-	-	7,348	95,355	3,086	-	-	921	9,623
Retail Yards	-	-	-	-	-	-	5,239	813	3,923	49,184	614	-	-	29,696	7,768
Byproduct and Water Gas	-	-	-	-	-	-	-	1,329	-	-	-	-	-	-	-
Smithing	753	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 (continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN								Distribution of Total Production Reported on Forms S.F.A. Nos. 38 and 56	Waterborne Shipments via Lake and Tidewater 2/			Grand Total Distribution
	16	17	18	19	20	21	22	23		Great Lakes	Tidewater	Total	
Wisconsin Total	-	-	-	-	-	-	-	-	4,210,887	8,627,448	-	8,627,448	12,838,335
Industrial	-	-	-	-	-	-	-	-	2,768,509	3,458,019	-	3,458,019	6,226,528
Retail Yards	-	-	-	-	-	-	-	-	1,387,781	3,568,807	-	3,568,807	4,956,588
Byproduct and Water Gas	-	-	-	-	-	-	-	-	52,394	1,600,149	-	1,600,149	1,652,543
Smithing	-	-	-	-	-	-	-	-	2,203	473	-	473	2,676
West North Central													
Iowa Total	-	20,105	-	9,182	-	-	517	-	7,071,628	109,316	-	109,316	7,180,944
Industrial	-	37	-	492	-	-	-	-	2,960,457	849	-	849	2,961,306
Retail Yards	-	20,068	-	8,690	-	-	517	-	4,055,555	108,372	-	108,372	4,163,927
Byproduct and Water Gas	-	-	-	-	-	-	-	-	53,173	52	-	52	53,225
Smithing	-	-	-	-	-	-	-	-	2,443	43	-	43	2,486
Kansas Total	5,634	209,241	-	5,049	2,320	-	-	-	2,199,051	-	-	-	2,199,051
Industrial	-	1,454	-	2,126	-	-	-	-	1,175,816	-	-	-	1,175,816
Retail Yards	5,634	207,739	-	2,923	2,320	-	-	-	1,021,774	-	-	-	1,021,774
Smithing	-	48	-	-	-	-	-	-	1,461	-	-	-	1,461
Minnesota Total	-	787	-	699	-	102,086	10,664	-	1,694,104	3,749,508	-	3,749,508	5,443,612
Industrial	-	-	-	49	-	56,162	-	-	1,121,412	1,262,474	-	1,262,474	2,383,886
Retail Yards	-	787	-	650	-	45,924	10,664	-	567,060	2,038,115	-	2,038,115	2,605,175
Byproduct and Water Gas	-	-	-	-	-	-	-	-	-	446,519	-	446,519	446,519
Smithing	-	-	-	-	-	-	-	-	5,632	2,400	-	2,400	8,032
Missouri Total	-	83	-	1,067	-	-	-	-	7,901,953	-	-	-	7,901,953
Industrial	-	-	-	-	-	-	-	-	3,292,556	-	-	-	3,292,556
Retail Yards	-	83	-	1,067	-	-	-	-	4,243,142	-	-	-	4,243,142
Byproducat and Water Gas	-	-	-	-	-	-	-	-	358,062	-	-	-	358,062
Smithing	-	-	-	-	-	-	-	-	8,193	-	-	-	8,193
Nebraska Total	10,204	484,279	-	272,183	4,516	-	80	-	2,082,717	6,473	-	6,473	2,089,190
Industrial	463	22,125	-	141,024	-	-	80	-	723,251	-	-	-	723,251
Retail Yards	9,741	462,154	-	131,159	4,516	-	-	-	1,358,157	6,473	-	6,473	1,364,630
Smithing	-	-	-	-	-	-	-	-	1,309	-	-	-	1,309
North Dakota Total	-	121	-	30,053	-	1,565,933	35,667	-	1,636,388	201,675	-	201,675	1,838,063
Industrial	-	-	-	2,278	-	731,487	56	-	737,254	32,751	-	32,751	770,005
Retail Yards	-	121	-	27,775	-	834,446	35,611	-	898,662	168,866	-	168,866	1,067,528
Smithing	-	-	-	-	-	-	-	-	472	58	-	58	530
South Dakota Total	286	57,174	-	108,908	4,267	117,967	88,000	-	592,254	336,203	-	336,203	928,457
Industrial	-	1,971	-	65,354	-	89,378	30,335	-	303,371	10,480	-	10,480	313,851
Retail Yards	286	55,203	-	43,554	4,267	28,589	57,665	-	286,801	325,639	-	325,639	612,440
Byproduct and Water Gas	-	-	-	-	-	-	-	-	1,329	-	-	-	1,329
Smithing	-	-	-	-	-	-	-	-	753	84	-	84	837

TABLE 1

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 (continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
South Atlantic															
Delaware Total	213,369	39,587	114,579	145	-	166	17,643	3,592	-	-	-	-	-	-	-
Industrial	190,521	36,190	91,110	-	-	166	15,801	3,592	-	-	-	-	-	-	-
Retail Yards	22,848	2,287	23,469	145	-	-	1,842	-	-	-	-	-	-	-	-
Byproduct and Water Gas	-	1,110	-	-	-	-	-	-	-	-	-	-	-	-	-
District of Columbia Total	209,767	5,142	63,015	446	-	100	1,538,679	43,557	-	-	-	-	-	-	-
Industrial	177,130	4,899	38,871	-	-	100	1,053,533	20,064	-	-	-	-	-	-	-
Retail Yards	32,637	243	24,144	446	-	-	485,146	16,565	-	-	-	-	-	-	-
Byproduct and Water Gas	-	-	-	-	-	-	-	6,928	-	-	-	-	-	-	-
Florida Total	-	-	-	-	-	-	3,123	216,181	113,551	6,871	-	-	239,853	-	-
Industrial	-	-	-	-	-	-	105	117,396	61,066	3,390	-	-	213,656	-	-
Retail Yards	-	-	-	-	-	-	2,630	79,907	52,485	3,481	-	-	24,733	-	-
Byproduct and Water Gas	-	-	-	-	-	-	-	18,878	-	-	-	-	-	-	-
Smithing	-	-	-	-	-	-	388	-	-	-	-	-	1,464	-	-
Georgia Total	-	-	-	-	-	-	24,637	2,808,551	62,965	-	-	-	389,064	-	-
Industrial	-	-	-	-	-	-	23,630	1,316,164	12,643	-	-	-	312,251	-	-
Retail Yards	-	-	-	-	-	-	853	1,474,988	50,322	-	-	-	74,613	-	-
Byproduct and Water Gas	-	-	-	-	-	-	-	17,399	-	-	-	-	-	-	-
Smithing	-	-	-	-	-	-	154	-	-	-	-	-	2,200	-	-
Maryland Total	1,541,633	106,409	2,607,629	518	-	30,117	488,013	105,826	-	-	-	-	-	-	-
Industrial	1,249,474	64,678	894,515	-	-	10,876	152,051	92,238	-	-	-	-	-	-	-
Retail Yards	268,609	21,217	286,210	518	-	19,241	231,709	12,615	-	-	-	-	-	-	-
Byproduct and Water Gas	21,713	20,514	1,426,904	-	-	-	104,253	973	-	-	-	-	-	-	-
Smithing	1,837	-	-	-	-	-	-	-	-	-	-	-	-	-	-
North Carolina Total	-	-	-	-	-	-	1,440,615	4,686,177	918	-	-	-	320	-	-
Industrial	-	-	-	-	-	-	1,082,391	2,725,954	865	-	-	-	275	-	-
Retail Yards	-	-	-	-	-	-	356,651	1,848,645	53	-	-	-	45	-	-
Byproduct and Water Gas	-	-	-	-	-	-	-	111,578	-	-	-	-	-	-	-
Smithing	-	-	-	-	-	-	1,573	-	-	-	-	-	-	-	-
South Carolina Total	-	-	-	-	-	-	346,394	2,629,412	-	-	-	-	37,421	-	-
Industrial	-	-	-	-	-	-	334,267	1,681,141	-	-	-	-	37,072	-	-
Retail Yards	-	-	-	-	-	-	11,715	896,092	-	-	-	-	349	-	-
Byproduct and Water Gas	-	-	-	-	-	-	-	52,179	-	-	-	-	-	-	-
Smithing	-	-	-	-	-	-	412	-	-	-	-	-	-	-	-
Virginia Total	9,345	4,182	57,592	-	-	6,122	5,459,248	3,303,014	363	-	-	-	-	-	-
Industrial	3,238	2,979	50,717	-	-	6,122	3,924,554	2,057,875	308	-	-	-	-	-	-
Retail Yards	6,107	1,203	6,875	-	-	-	1,528,199	833,238	55	-	-	-	-	-	-
Byproduct and Water Gas 3/	-	-	-	-	-	-	5,550	411,219	-	-	-	-	-	-	-
Smithing	-	-	-	-	-	-	945	617	-	-	-	-	-	-	-
Storage	-	-	-	-	-	-	-	65	-	-	-	-	-	-	-

TABLE 1

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 (continued)

133892

REGION, STATE, AND USE	DISTRICT OF ORIGIN								Distribution of Total Production Reported on Forms S.F.A.Nos.38 and 56	Waterborne Shipments via Lake and Tidewater 2/			Grand Total Distribution
	16	17	18	19	20	21	22	23		Great Lakes	Tidewater	Total	
South Atlantic													
Delaware Total	-	-	-	-	-	-	-	-	389,081	-	135	135	389,216
Industrial	-	-	-	-	-	-	-	-	337,380	-	135	135	337,515
Retail Yards	-	-	-	-	-	-	-	-	50,591	-	-	-	50,591
Byproduct and Water Gas	-	-	-	-	-	-	-	-	1,110	-	-	-	1,110
District of Columbia Total	-	-	-	-	-	-	-	-	1,860,706	-	-	-	1,860,706
Industrial	-	-	-	-	-	-	-	-	1,294,597	-	-	-	1,294,597
Retail Yards	-	-	-	-	-	-	-	-	559,181	-	-	-	559,181
Byproduct and Water Gas	-	-	-	-	-	-	-	-	6,928	-	-	-	6,928
Florida Total	-	-	-	-	-	-	-	-	579,579	-	-	-	579,579
Industrial	-	-	-	-	-	-	-	-	395,613	-	-	-	395,613
Retail Yards	-	-	-	-	-	-	-	-	163,236	-	-	-	163,236
Byproduct and Water Gas	-	-	-	-	-	-	-	-	18,878	-	-	-	18,878
Smithing	-	-	-	-	-	-	-	-	1,852	-	-	-	1,852
Georgia Total	-	-	-	-	-	-	-	-	3,285,217	-	-	-	3,285,217
Industrial	-	-	-	-	-	-	-	-	1,664,688	-	-	-	1,664,688
Retail Yards	-	-	-	-	-	-	-	-	1,600,776	-	-	-	1,600,776
Byproduct and Water Gas	-	-	-	-	-	-	-	-	17,399	-	-	-	17,399
Smithing	-	-	-	-	-	-	-	-	2,354	-	-	-	2,354
Maryland Total	-	-	-	-	-	-	-	-	4,880,145	-	1,236,874	1,236,874	6,117,019
Industrial	-	-	-	-	-	-	-	-	2,463,832	-	1,157,144	1,157,144	3,620,976
Retail Yards	-	-	-	-	-	-	-	-	840,119	-	-	-	840,119
Byproduct and Water Gas	-	-	-	-	-	-	-	-	1,574,357	-	79,730	79,730	1,654,087
Smithing	-	-	-	-	-	-	-	-	1,837	-	-	-	1,837
North Carolina Total	-	-	-	-	-	-	-	-	6,128,030	-	318	318	6,128,348
Industrial	-	-	-	-	-	-	-	-	3,809,485	-	-	-	3,809,485
Retail Yards	-	-	-	-	-	-	-	-	2,205,394	-	318	318	2,205,712
Byproduct and Water Gas	-	-	-	-	-	-	-	-	111,578	-	-	-	111,578
Smithing	-	-	-	-	-	-	-	-	1,573	-	-	-	1,573
South Carolina Total	-	-	-	-	-	-	-	-	3,013,227	-	451	451	3,013,678
Industrial	-	-	-	-	-	-	-	-	2,052,480	-	451	451	2,052,931
Retail Yards	-	-	-	-	-	-	-	-	908,156	-	-	-	908,156
Byproduct and Water Gas	-	-	-	-	-	-	-	-	52,179	-	-	-	52,179
Smithing	-	-	-	-	-	-	-	-	412	-	-	-	412
Virginia Total	-	-	-	-	-	-	-	-	8,839,866	-	20,075	20,075	8,859,941
Industrial	-	-	-	-	-	-	-	-	6,045,793	-	19,566	19,566	6,065,359
Retail Yards	-	-	-	-	-	-	-	-	2,375,677	-	509	509	2,376,186
Byproduct and Water Gas 3/	-	-	-	-	-	-	-	-	416,769	-	-	-	416,769
Smithing	-	-	-	-	-	-	-	-	1,562	-	-	-	1,562
Storage	-	-	-	-	-	-	-	-	65	-	-	-	65

TABLE 1

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 (continued)

133892

REGION, STATE, AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
West Virginia Total	211,734	2,531,783	1,843,498	63,550	-	347,239	379,299	4,591,685	-	-	-	-	-	-	-
Industrial	30,269	411,906	1,011,486	57,069	-	343,399	120,116	3,514,601	-	-	-	-	-	-	-
Retail Yards	10,281	-	74,174	6,481	-	3,840	115,173	61,396	-	-	-	-	-	-	-
Byproduct and Water Gas	170,635	2,119,877	757,838	-	-	-	143,059	1,015,688	-	-	-	-	-	-	-
Smithing	549	-	-	-	-	-	951	-	-	-	-	-	-	-	-
East South Central															
Alabama Total	-	-	-	-	-	-	155,715	107,016	140,898	4,036	-	-	10,664,323	-	-
Industrial	-	-	-	-	-	-	28,067	16,678	88,502	2,382	-	-	2,282,983	-	-
Retail Yards	-	-	-	-	-	-	1,766	90,338	52,396	1,654	-	-	854,286	-	-
Byproduct and Water Gas	-	-	-	-	-	-	125,882	-	-	-	-	-	7,523,265	-	-
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	3,789	-	-
Kentucky Total	44	-	-	-	-	-	233,261	3,403,430	2,528,082	1,258	13,021	-	464	-	-
Industrial	-	-	-	-	-	-	2,554	1,120,230	1,798,086	-	13,021	-	-	-	-
Retail Yards	-	-	-	-	-	-	62,070	1,518,669	727,231	1,258	-	-	294	-	-
Byproduct and Water Gas 3/	-	-	-	-	-	-	168,116	764,531	2,765	-	-	-	-	-	-
Smithing	44	-	-	-	-	-	521	-	-	-	-	-	170	-	-
Mississippi Total	30	-	-	-	-	-	-	2,329	370,972	32,468	-	-	175,042	-	-
Industrial	-	-	-	-	-	-	-	-	217,798	7,582	-	-	53,177	-	-
Retail Yards	-	-	-	-	-	-	-	2,329	153,174	24,886	-	-	119,023	-	-
Smithing	30	-	-	-	-	-	-	-	-	-	-	-	2,842	-	-
Tennessee Total	-	-	-	-	-	-	25,178	4,291,751	2,559,338	95,658	-	-	669,383	299	43
Industrial	-	-	-	-	-	-	11,326	2,600,665	1,403,678	6,596	-	-	356,966	-	-
Retail Yards	-	-	-	-	-	-	475	1,449,725	1,155,660	89,062	-	-	128,480	299	43
Byproduct and Water Gas 3/	-	-	-	-	-	-	13,270	234,336	-	-	-	-	181,081	-	-
Smithing	-	-	-	-	-	-	107	7,025	-	-	-	-	2,856	-	-
West South Central															
Arkansas Total	87	-	-	-	-	-	-	2,359	149,859	188,358	-	-	23,417	118,009	8,867
Industrial	-	-	-	-	-	-	-	-	85,153	83,070	-	-	2,984	45,337	4,922
Retail Yards	-	-	-	-	-	-	-	2,359	64,706	105,288	-	-	18,302	72,672	3,945
Smithing	87	-	-	-	-	-	-	-	-	-	-	-	2,131	-	-
Louisiana Total	54	-	-	-	-	-	-	52	65,775	23,120	-	-	84,965	832	5,380
Industrial	-	-	-	-	-	-	-	-	40,863	13,750	-	-	34,369	-	1,469
Retail Yards	-	-	-	-	-	-	-	52	24,912	9,370	-	-	43,244	832	3,911
Smithing	54	-	-	-	-	-	-	-	-	-	-	-	7,352	-	-
Oklahoma Total	295	-	-	-	-	-	37	-	-	-	-	-	34	84,603	722,193
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	78,206	539,899
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	6,397	182,294
Smithing	295	-	-	-	-	-	37	-	-	-	-	-	34	-	-

TABLE 1

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 (continued)

133892

REGION, STATE, AND USE	DISTRICT OF ORIGIN								Distribution of Total Production Reported on Forms S.F.A.Nos.38 and 56	Waterborne Shipments via Lake and Tidewater 2/			Grand Total Distribution
	16	17	18	19	20	21	22	23		Great Lakes	Tidewater	Total	
West Virginia Total	-	-	-	-	-	-	-	-	9,968,788	-	-	-	9,968,788
Industrial	-	-	-	-	-	-	-	-	5,488,846	-	-	-	5,488,846
Retail Yards	-	-	-	-	-	-	-	-	271,345	-	-	-	271,345
Byproduct and Water Gas	-	-	-	-	-	-	-	-	4,207,097	-	-	-	4,207,097
Smithing	-	-	-	-	-	-	-	-	1,500	-	-	-	1,500
East South Central													
Alabama Total	-	-	-	-	-	-	-	-	11,071,988	-	-	-	11,071,988
Industrial	-	-	-	-	-	-	-	-	2,418,612	-	-	-	2,418,612
Retail Yards	-	-	-	-	-	-	-	-	1,000,440	-	-	-	1,000,440
Byproduct and Water Gas	-	-	-	-	-	-	-	-	7,649,147	-	-	-	7,649,147
Smithing	-	-	-	-	-	-	-	-	3,789	-	-	-	3,789
Kentucky Total	-	-	-	-	-	-	-	-	6,179,560	-	-	-	6,179,560
Industrial	-	-	-	-	-	-	-	-	2,933,891	-	-	-	2,933,891
Retail Yards	-	-	-	-	-	-	-	-	2,309,522	-	-	-	2,309,522
Byproduct and Water Gas 3/	-	-	-	-	-	-	-	-	935,412	-	-	-	935,412
Smithing	-	-	-	-	-	-	-	-	735	-	-	-	735
Mississippi Total	-	-	-	-	-	-	-	-	580,841	-	-	-	580,841
Industrial	-	-	-	-	-	-	-	-	278,557	-	-	-	278,557
Retail Yards	-	-	-	-	-	-	-	-	299,412	-	-	-	299,412
Smithing	-	-	-	-	-	-	-	-	2,872	-	-	-	2,872
Tennessee Total	-	-	-	-	-	-	-	-	7,641,650	-	-	-	7,641,650
Industrial	-	-	-	-	-	-	-	-	4,379,231	-	-	-	4,379,231
Retail Yards	-	-	-	-	-	-	-	-	2,823,744	-	-	-	2,823,744
Byproduct and Water Gas 3/	-	-	-	-	-	-	-	-	428,687	-	-	-	428,687
Smithing	-	-	-	-	-	-	-	-	9,988	-	-	-	9,988
West South Central													
Arkansas Total	-	-	-	-	-	-	-	-	490,956	-	-	-	490,956
Industrial	-	-	-	-	-	-	-	-	221,466	-	-	-	221,466
Retail Yards	-	-	-	-	-	-	-	-	267,272	-	-	-	267,272
Smithing	-	-	-	-	-	-	-	-	2,218	-	-	-	2,218
Louisiana Total	-	-	-	-	-	-	-	-	180,178	-	-	-	180,178
Industrial	-	-	-	-	-	-	-	-	90,451	-	-	-	90,451
Retail Yards	-	-	-	-	-	-	-	-	82,321	-	-	-	82,321
Smithing	-	-	-	-	-	-	-	-	7,406	-	-	-	7,406
Oklahoma Total	-	13,678	-	-	-	-	-	-	820,840	-	-	-	820,840
Industrial	-	-	-	-	-	-	-	-	618,105	-	-	-	618,105
Retail Yards	-	13,678	-	-	-	-	-	-	202,369	-	-	-	202,369
Smithing	-	-	-	-	-	-	-	-	366	-	-	-	366

TABLE 1

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 (continued)

133892

REGION, STATE, AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Texas Total	786	-	-	-	-	-	289	-	-	-	-	-	6,377	112,105	458,114
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	30,571	194,182
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	560	3,317	79,486
Byproduct and Water Gas	-	-	-	-	-	-	-	-	-	-	-	-	-	78,217	183,513
Smithing	786	-	-	-	-	-	289	-	-	-	-	-	5,817	-	-
Use not Reported	-	-	-	-	-	-	-	-	-	-	-	-	-	-	933
Mountain															
Arizona Total	241	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	241	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Colorado Total	881	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Byproduct and Water Gas 3/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	881	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Idaho Total	225	-	-	-	-	-	426	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	277	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	113	-	-	-	-	-	-	-	-
Smithing	225	-	-	-	-	-	36	-	-	-	-	-	-	-	-
Montana Total	517	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	517	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nevada Total	804	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	804	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Mexico Total	216	-	-	-	-	-	56	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	216	-	-	-	-	-	56	-	-	-	-	-	-	-	-
Utah Total	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Byproduct and Water Gas 3/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wyoming Total	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 (continued)

133892

REGION, STATE, AND USE	DISTRICT OF ORIGIN								Distribution of Total Production Reported on Forms S.F.A.Nos.38 and 56	Waterborne Shipments via Lake and Tidewater 2/			Grand Total Distribution
	16	17	18	19	20	21	22	23		Great Lakes	Tidewater	Total	
Texas Total	-	55,561	3,691	-	-	-	-	-	636,923	-	-	-	636,923
Industrial	-	21,211	45	-	-	-	-	-	246,009	-	-	-	246,009
Retail Yards	-	34,304	3,646	-	-	-	-	-	121,313	-	-	-	121,313
Byproduct and Water Gas	-	-	-	-	-	-	-	-	261,730	-	-	-	261,730
Smithing	-	46	-	-	-	-	-	-	6,938	-	-	-	6,938
Use not Reported	-	-	-	-	-	-	-	-	933	-	-	-	933
Mountain													
Arizona Total	-	23,141	51,071	-	-	-	-	-	74,453	-	-	-	74,453
Industrial	-	20,117	20,413	-	-	-	-	-	40,530	-	-	-	40,530
Retail Yards	-	2,926	30,658	-	-	-	-	-	33,584	-	-	-	33,584
Smithing	-	98	-	-	-	-	-	-	339	-	-	-	339
Colorado Total	1,330,718	2,170,469	-	16,499	271	-	-	-	3,518,838	-	-	-	3,518,838
Industrial	727,770	333,460	-	10,675	-	-	-	-	1,071,905	-	-	-	1,071,905
Retail Yards	602,948	579,476	-	5,824	271	-	-	-	1,188,519	-	-	-	1,188,519
Byproduct and Water Gas 3/	-	1,257,163	-	-	-	-	-	-	1,257,163	-	-	-	1,257,163
Smithing	-	370	-	-	-	-	-	-	1,251	-	-	-	1,251
Idaho Total	-	6,402	-	235,695	783,032	-	19,462	608	1,045,850	-	-	-	1,045,850
Industrial	-	-	-	157,371	140,893	-	12,340	608	311,489	-	-	-	311,489
Retail Yards	-	6,402	-	78,324	642,139	-	7,122	-	734,100	-	-	-	734,100
Smithing	-	-	-	-	-	-	-	-	261	-	-	-	261
Montana Total	-	410	-	133,528	26,880	2,698	331,456	-	495,489	-	-	-	495,489
Industrial	-	-	-	59,211	384	110	131,157	-	190,862	-	-	-	190,862
Retail Yards	-	410	-	74,317	26,496	2,588	200,299	-	304,110	-	-	-	304,110
Smithing	-	-	-	-	-	-	-	-	517	-	-	-	517
Nevada Total	-	45	-	1,200	224,003	-	-	-	226,052	-	-	-	226,052
Industrial	-	-	-	1,150	155,001	-	-	-	156,151	-	-	-	156,151
Retail Yards	-	45	-	50	69,002	-	-	-	69,097	-	-	-	69,097
Smithing	-	-	-	-	-	-	-	-	804	-	-	-	804
New Mexico Total	-	188,915	45,189	-	-	-	-	-	234,376	-	-	-	234,376
Industrial	-	91,906	9,140	-	-	-	-	-	101,046	-	-	-	101,046
Retail Yards	-	96,701	36,049	-	-	-	-	-	132,750	-	-	-	132,750
Smithing	-	308	-	-	-	-	-	-	580	-	-	-	580
Utah Total	-	7,666	-	30,377	2,719,262	-	-	-	2,757,397	-	-	-	2,757,397
Industrial	-	278	-	29,559	638,780	-	-	-	668,617	-	-	-	668,617
Retail Yards	-	7,388	-	818	652,720	-	-	-	660,926	-	-	-	660,926
Byproduct and Water Gas 3/	-	-	-	-	1,427,762	-	-	-	1,427,762	-	-	-	1,427,762
Smithing	-	-	-	-	-	-	-	-	92	-	-	-	92
Wyoming Total	31,824	47,783	-	358,944	-	-	766	-	439,368	-	-	-	439,368
Industrial	25,558	24,502	-	227,499	-	-	-	-	277,559	-	-	-	277,559
Retail Yards	6,266	23,281	-	131,384	-	-	766	-	161,697	-	-	-	161,697
Smithing	-	-	-	61	-	-	-	-	112	-	-	-	112

TABLE 1

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 (continued)

133892

REGION, STATE, AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Pacific															
California Total	4,111	-	-	-	-	-	2,342	-	-	-	-	-	44	50,388	-
Industrial	-	-	-	-	-	-	1,481	-	-	-	-	-	-	32,931	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Byproduct and Water Gas	-	-	-	-	-	-	-	-	-	-	-	-	-	17,457	-
Smithing	4,111	-	-	-	-	-	861	-	-	-	-	-	44	-	-
Oregon Total	1,519	-	-	-	-	-	45	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	1,519	-	-	-	-	-	45	-	-	-	-	-	-	-	-
Washington and Alaska Total	2,533	-	-	-	-	-	46	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Retail Yards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Byproduct and Water Gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smithing	2,533	-	-	-	-	-	46	-	-	-	-	-	-	-	-
Unknown State Total	20,578	11,208	12,689	3,126	-	-	8,806	45,429	50	125	21,061	487	-	13,534	2,714
Industrial	6,081	10,834	12,689	3,076	-	-	5,543	38,698	50	125	21,006	297	-	3,382	680
Retail Yards	14,497	374	-	50	-	-	3,263	659	-	-	55	190	-	10,095	2,034
Byproduct and Water Gas	-	-	-	-	-	-	-	-	-	-	-	-	-	57	-
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	-	-	-	-	-	-	-	6,072	-	-	-	-	-	-	-
United States Total	23,585,332	50,361,767	20,173,225	12,356,361	42,302	1,481,633	30,497,078	65,692,255	8,281,203	40,991,922	14,317,833	730,983	12,294,684	1,700,832	6,402,910
Industrial	16,531,297	13,902,986	11,572,163	9,870,692	12,856	1,323,468	7,661,017	29,383,374	4,643,878	27,107,773	10,824,250	584,427	3,295,256	335,250	3,683,836
Retail Yards	2,513,101	2,677,383	3,008,118	2,469,180	29,446	158,165	14,813,504	24,577,748	3,634,560	13,569,348	3,421,738	144,892	1,265,384	1,269,851	2,534,628
Byproduct and Water Gas 3/	4,473,587	33,766,791	5,532,910	16,489	-	-	7,959,743	11,541,924	2,765	314,801	71,845	1,664	7,704,346	95,731	183,513
Smithing	67,347	1,509	166	-	-	-	20,494	10,758	-	-	-	-	29,698	-	-
Storage	-	13,098	-	-	-	-	-	168,649	-	-	-	-	-	-	-
Use not Reported	-	-	59,868	-	-	-	42,320	9,802	-	-	-	-	-	-	933
Canada Total 4/	252,411	301,465	651,494	31,631	-	4,630	221,738	420,404	2,650	-	-	-	-	-	-
Industrial	175,134	271,892	494,065	10,236	-	4,193	17,566	189,133	2,650	-	-	-	-	-	-
Retail Yards	58,434	29,573	157,429	21,395	-	437	201,460	223,455	-	-	-	-	-	-	-
Byproduct and Water Gas	-	-	-	-	-	-	-	7,816	-	-	-	-	-	-	-
Smithing	18,843	-	-	-	-	-	2,712	-	-	-	-	-	-	-	-
Storage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Use not Reported	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
United States and Canada Total	23,837,743	50,663,232	20,824,719	12,387,992	42,302	1,486,263	30,718,816	66,112,659	8,283,853	40,991,922	14,317,833	730,983	12,294,684	1,700,832	6,402,910
Industrial	16,706,431	14,174,878	12,066,228	9,880,928	12,856	1,327,661	7,678,583	29,572,507	4,646,528	27,107,773	10,824,250	584,427	3,295,256	335,250	3,683,836
Retail Yards	2,571,535	2,706,956	3,165,547	2,490,575	29,446	158,602	15,014,964	24,801,203	3,634,560	13,569,348	3,421,738	144,892	1,265,384	1,269,851	2,534,628
Byproduct and Water Gas 3/	4,473,587	33,766,791	5,532,910	16,489	-	-	7,959,743	11,549,740	2,765	314,801	71,845	1,664	7,704,346	95,731	183,513
Smithing	86,190	1,509	166	-	-	-	23,206	10,758	-	-	-	-	29,698	-	-
Storage	-	13,098	-	-	-	-	-	168,649	-	-	-	-	-	-	-
Use not Reported	-	-	59,868	-	-	-	42,320	9,802	-	-	-	-	-	-	933

TABLE 1

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 (continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN								Distribution of Total Production Reported on Forms S.F.A.Nos.38 and 56	Waterborne Shipments via Lake and Tidewater 2/			Grand Total Distribution
	16	17	18	19	20	21	22	23		Great Lakes	Tidewater	Total	
Pacific													
California Total	-	6,525	14,371	41,774	605,558	-	-	-	725,113	-	-	-	725,113
Industrial	-	2,296	9,179	30,030	49,388	-	-	-	125,305	-	-	-	125,305
Retail Yards	-	4,229	5,192	11,744	107,441	-	-	-	128,606	-	-	-	128,606
Byproduct and Water Gas	-	-	-	-	448,729	-	-	-	466,186	-	-	-	466,186
Smithing	-	-	-	-	-	-	-	-	5,016	-	-	-	5,016
Oregon Total	-	7,033	-	131,780	260,256	-	495	10,392	411,520	-	-	-	411,520
Industrial	-	-	-	80,119	72,636	-	239	10,342	163,336	-	-	-	163,336
Retail Yards	-	7,033	-	51,661	187,620	-	256	50	246,620	-	-	-	246,620
Smithing	-	-	-	-	-	-	-	-	1,564	-	-	-	1,564
Washington and Alaska Total	-	38,059	-	732,679	687,166	-	403,625	423,947	2,288,055	-	5,944	5,944	2,293,999
Industrial	-	49	-	428,870	141,179	-	260,932	333,378	1,164,408	-	5,944	5,944	1,170,352
Retail Yards	-	38,010	-	303,809	545,987	-	142,693	73,274	1,103,773	-	-	-	1,103,773
Byproduct and Water Gas	-	-	-	-	-	-	-	17,295	17,295	-	-	-	17,295
Smithing	-	-	-	-	-	-	-	-	2,579	-	-	-	2,579
Unknown State Total	1,370	687	-	-	4,180	-	-	-	146,044	-	1,054	1,054	147,098
Industrial	-	49	-	-	-	-	-	-	102,510	-	-	-	102,510
Retail Yards	1,370	616	-	-	4,180	-	-	-	37,383	-	1,054	1,054	38,437
Byproduct and Water Gas	-	-	-	-	-	-	-	-	57	-	-	-	57
Smithing	-	22	-	-	-	-	-	-	22	-	-	-	22
Storage	-	-	-	-	-	-	-	-	6,072	-	-	-	6,072
United States Total	1,380,036	3,338,164	114,322	2,109,617	5,321,711	1,788,684	890,732	434,947	304,288,533	35,357,908	31,297,470	66,655,378	370,943,911
Industrial	753,791	519,455	38,777	1,235,807	1,198,261	877,137	435,139	344,328	146,135,218	13,474,860	19,777,775	33,252,635	179,387,853
Retail Yards	626,245	1,560,654	75,545	873,749	2,246,959	911,547	455,593	73,324	82,910,662	7,523,800	4,959,064	12,482,864	95,393,526
Byproduct and Water Gas 3/	-	1,257,163	-	-	1,876,491	-	-	17,295	74,817,058	14,354,307	6,560,319	20,914,626	95,731,684
Smithing	-	892	-	61	-	-	-	-	130,925	4,941	312	5,253	136,178
Storage	-	-	-	-	-	-	-	-	181,747	-	-	-	181,747
Use Not Reported	-	-	-	-	-	-	-	-	112,923	-	-	-	112,923
Canada Total 4/	-	-	-	-	-	-	-	-	1,886,423	11,251,963	192,555	11,444,518	13,330,941
Industrial	-	-	-	-	-	-	-	-	1,164,869	2,472,956	-	2,472,956	3,637,825
Retail Yards	-	-	-	-	-	-	-	-	692,183	11,337	-	11,337	703,520
Byproduct and Water Gas	-	-	-	-	-	-	-	-	7,816	3,126,302	-	3,126,302	3,134,118
Smithing	-	-	-	-	-	-	-	-	21,555	-	-	-	21,555
Storage	-	-	-	-	-	-	-	-	-	5,641,368	-	5,641,368	5,641,368
Use not Reported	-	-	-	-	-	-	-	-	-	-	192,555	192,555	192,555
United States and Canada Total	1,380,036	3,338,164	114,322	2,109,617	5,321,711	1,788,684	890,732	434,947	306,174,956	46,609,871	31,490,025	78,099,896	384,274,852
Industrial	753,791	519,455	38,777	1,235,807	1,198,261	877,137	435,139	344,328	147,300,087	15,947,816	19,777,775	35,725,591	183,025,678
Retail Yards	626,245	1,560,654	75,545	873,749	2,246,959	911,547	455,593	73,324	83,602,845	7,535,137	4,959,064	12,494,201	96,097,046
Byproduct and Water Gas 3/	-	1,257,163	-	-	1,876,491	-	-	17,295	74,824,874	17,480,609	6,560,319	24,040,928	98,865,802
Smithing	-	892	-	61	-	-	-	-	152,480	4,941	312	5,253	157,733
Storage	-	-	-	-	-	-	-	-	181,747	5,641,368	-	5,641,368	5,823,115
Use not Reported	-	-	-	-	-	-	-	-	112,923	-	192,555	192,555	305,478

TABLE 1

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 (continued)

133892

REGION, STATE, AND USE	DISTRICT OF ORIGIN														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2. Export overseas 5/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Vessel and Bunker Fuel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Railroad Fuel-U.S. and Canada	7,594,922	10,784,310	13,285,437	10,062,427	2,602	1,242,592	945,531	14,224,992	7,033,884	23,273,921	8,919,905	209,024	3,773,084	154,806	2,011,569
5. Tidewater	12,312,262	598,606	3,615,639	-	-	13,627	13,868,344	6,919,634	25,053	610,559	-	-	629,393	741	-
6. Lake	2,508,437	7,298,133	4,192,031	4,137,169	-	463,977	9,806,079	21,861,199	558,603	131,497	-	-	-	-	-
7. Truck 6/	1,383,701	4,410,553	211,067	4,436,151	57,048	577,301	180,391	1,004,170	559,178	5,605,228	1,811,277	629,195	391,013	15,615	824,629
8. Distributors and Wholesalers (Destination and Use Unknown)	433,780	851,152	208,606	76,105	-	27,544	317,933	892,815	120,461	192,678	56,469	5,338	2,554	33,556	41,328
9. Private Railroads Tramways and Conveyors	313,113	1,274,833	430,511	46,185	-	932,782	165,230	445,114	62,029	127,554	490,876	-	342,128	-	24,293
10. Coal used at mine 7/	612,115	408,602	132,263	91,964	9,023	5,188	771,179	841,102	95,939	1,119,476	154,230	17,166	183,927	9,475	37,713
11. Other disposals not specified above	241	4,250	5,866	2,731	-	-	2,455	19,379	240	7,596	54	-	214	356	40
12. Net change in Inventory	-44,727	-38,331	-13,784	-6,019	5	-9,622	-103,920	49,756	2,771	-45,586	13,993	-3,963	16,061	-4,172	-6,771
Total Production Reported	48,951,587	76,255,340	42,892,355	31,234,705	110,980	4,739,652	56,672,038	112,370,820	16,742,011	72,014,845	25,764,637	1,587,743	17,633,058	1,911,209	9,335,711
13. Estimated Truck Production not Reported 8/	2,091,970	2,251,574	578,145	1,050,301	14,089	307,216	179,318	3,020,061	1,513,360	555,766	275,080	401,306	773,705	59,666	612,600
GRAND TOTAL	51,043,557	78,506,914	43,470,500	32,285,006	125,069	5,046,868	56,851,356	115,390,881	18,255,371	72,570,611	26,039,717	1,989,049	18,406,763	1,970,875	9,948,311

[1] Includes shipments by truck to byproduct and beehive coke ovens away from the producing mine and for smithing use as follows:
District 1, 12,488 tons; District 2, 1,051,429 tons; District 3, 17,653 tons; District 10, 115,703 tons; District 17. 126 tons;
District 19, 50 tons; District 23, 2,772 tons.

[2] Represents the distribution of coal that moved from the mines via Lake and tidewater during this period to consumer states. The total tonnages arrived at in these columns represent the tonnages of interport shipments for all consumer uses (excluding shipments to all storage docks excepting those in Canada) plus the tonnages of ex-dock shipments as shown on Tables Nos. 2 and 3.

[3] Include shipments to beehive coke ovens also.

[4] Certain transshippers are delinquent in filing data required, particularly with respect to movements of coal for account of Canadian distributors who themselves arrange for transshipment. The total reported shipments of bituminous coal to Canada during the year ended September 30, 1945, including railroad fuel, was about 19,530,073 tons and accounts for 91 percent of the grand total shipments to Canada. Reported shipments of railroad fuel to Canada are included in Item 4, "Railroad Fuel."

[5] The item export includes only shipments to tidewater ports for cargoes destined to points outside the United States and Canada as are reported to this office. The tonnages shown here are not all inclusive.

[6] Includes only mines with an average daily capacity of 50 tons or more and all mines with rail or river connections that report on Forms S.F.A. Nos. 38 and 56.

[7] Includes coal used to produce coal, coal used by mine employees and coal made into briquets or packaged fuel at the reporting mine.

[8] Represents total truck tonnage reported for the calendar year 1944 less (1) tonnages included in Rail, River and Ex-river movement for shipments by truck to byproduct and beehive coke ovens away from the producing mine and for smithing use and (2) truck tonnage shown in Item 7. These approximate tonnages were those produced at small truck mines not required to report on Forms S.F.A. Nos. 38 and 56.

TABLE I

DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945 (continued)

REGION, STATE, AND USE	DISTRICT OF ORIGIN								Distribution of Total Production Reported on Forms S.F.A.Nos. 38 and 56	Waterborne Shipments via Lake and Tidewater 2/			Grand Total Distribution
	16	17	18	19	20	21	22	23		Great Lakes	Tidewater	Total	
2. Export overseas	-	-	-	-	-	-	-	-	-	-	2,936,766	2,936,766	2,936,766
3. Vessel and Bunker Fuel	-	-	-	-	-	-	-	-	-	2,753,338	1,311,684	4,065,022	4,065,022
4. Railroad Fuel-U.S. and Canada	95,289	1,958,512	192,998	7,277,190	1,026,421	118,160	3,523,604	423,708	118,134,888	5,247,308	498,482	5,745,790	123,880,678
5. Tidewater	-	37,831	-	-	1,046	-	-	236	38,632,971	-	-	-	-
6. Lake	-	-	-	-	-	-	-	-	50,957,125	-	-	-	-
7. Truck 6/	750,385	461,705	30,946	95,108	177,215	103,853	54,956	303,380	24,074,065	-	-	-	24,074,065
8. Distributors and Wholesalers (Destination and Use Unknown)	-	32,142	-	57,776	70,043	-	43,615	29,115	3,493,010	-	-	-	3,493,010
9. Private Railroads Tramways and Conveyors	22,592	14,454	22,451	-	1,915	-	-	20,513	4,736,573	-	-	-	4,736,573
10. Coal used at mine 7/	56,965	114,289	21,847	137,000	29,557	119,063	16,567	25,981	5,010,631	-	-	-	5,010,631
11. Other disposals not specified above	87	-	-	868	53	-	-	158	44,588	-	-	-	44,588
12. Net change in inventory	-4,716	1,806	-5,947	1,787	1,429	- 175	2,250	12,437	-185,438	-	-	-	-185,438
Total Production Reported	2,300,638	5,958,903	376,617	9,679,346	6,629,390	2,129,585	4,531,724	1,250,475	551,073,369	54,610,517	36,236,957	90,847,474	552,330,747
13. Estimated Truck Production not Reported 8/	46,843	253,721	68,899	69,440	128,622	325,512	115,642	155,901	14,848,737	-	-	-	14,848,737
GRAND TOTAL	2,347,481	6,212,624	445,516	9,748,786	6,758,012	2,455,097	4,647,366	1,406,376	565,922,106	54,610,517	36,236,957	90,847,474	567,179,484

SHIPMENTS OF BITUMINOUS COAL VIA TIDEWATER TO ALONGSIDE CONSUMERS AND EX-DOCK SHIPMENTS FROM COMMERCIAL DOCKS AS REPORTED ON CARGO MANIFESTS, INVOICES, SUMMARY REPORTS AND FORM S.F.A. NO. 48 DURING THE YEAR ENDED SEPTEMBER 30, 1945, BY DISTRICT OF ORIGIN, STATE OF DESTINATION AND USE 1/

(In net tons of 2,000 pounds)

TABLE 2.

133892

State of Destination and Use	DISTRICT OF ORIGIN (Interport shipments only to alongside consumers)													Total shipments to alongside consumers	Ex-dock shipments from commercial docks 2/	Grand Total
	1	2	3	7	8	9	10	13	17	19	20	23	Unknown			
Connecticut																
Total	142,207	11,726	15,214	776,104	380,362	-	-	-	-	-	-	-	-	1,325,613	1,749,048	3,074,661
Industrial	138,665	7,941	10,813	438,870	75,500	-	-	-	-	-	-	-	-	671,789	1,222,556	1,894,345
Retail Dealers	3,542	-	4,401	5,539	1,704	-	-	-	-	-	-	-	-	15,186	515,182	530,368
Byproduct	-	3,785	-	331,695	289,672	-	-	-	-	-	-	-	-	625,152	-	625,152
Water Gas	-	-	-	-	13,486	-	-	-	-	-	-	-	-	13,486	11,310	24,796
Delaware																
Total	135	-	-	-	-	-	-	-	-	-	-	-	-	135	-	135
Industrial	135	-	-	-	-	-	-	-	-	-	-	-	-	135	-	135
Maine																
Total	5,551	-	-	231,876	2,449	-	-	-	-	-	-	-	-	239,876	1,042,165	1,282,041
Industrial	5,551	-	-	221,553	-	-	-	-	-	-	-	-	-	227,104	689,752	916,856
Retail Dealers	-	-	-	10,323	2,449	-	-	-	-	-	-	-	-	12,772	345,998	358,770
Water Gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,103	6,103
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	312	312
Maryland																
Total	1,149,185	20,377	5,925	61,387	-	-	-	-	-	-	-	-	-	1,236,874	-	1,236,874
Industrial	1,149,185	4,474	3,485	-	-	-	-	-	-	-	-	-	-	1,157,144	-	1,157,144
Byproduct	-	-	-	61,387	-	-	-	-	-	-	-	-	-	61,387	-	61,387
Water Gas	-	15,903	2,440	-	-	-	-	-	-	-	-	-	-	18,343	-	18,343
Massachusetts																
Total	74,916	3,114	3,761	1,884,220	257,169	-	-	-	-	-	-	-	-	2,223,180	4,394,076	6,617,256
Industrial	74,916	1,405	3,761	1,711,772	113,351	-	-	-	-	-	-	-	-	1,905,205	989,631	2,894,836
Retail Dealers	-	1,709	-	135,142	2,572	-	-	-	-	-	-	-	-	139,423	1,783,309	1,922,732
Byproduct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,620,776	1,620,776
Water Gas	-	-	-	37,306	141,246	-	-	-	-	-	-	-	-	178,552	360	178,912
New Hampshire																
Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	372,408	372,408
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	223,772	223,772
Retail Dealers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	148,485	148,485
Water Gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	151	151
New Jersey																
Total	1,647,993	77,639	720,159	1,412,183	1,052,071	-	-	-	-	-	-	-	-	4,910,045	-	4,910,045
Industrial	1,646,324	72,245	715,761	913,220	-	-	-	-	-	-	-	-	-	3,347,550	-	3,347,550
Retail Dealers	1,669	-	-	-	-	-	-	-	-	-	-	-	-	1,669	-	1,669
Byproduct	-	5,394	-	387,202	1,052,071	-	-	-	-	-	-	-	-	1,444,667	-	1,444,667
Water Gas	-	-	4,398	111,761	-	-	-	-	-	-	-	-	-	116,159	-	116,159
New York																
Total	6,571,440	195,154	654,976	1,019,403	842,449	-	-	-	-	-	-	-	-	9,283,422	240,582	9,524,004
Industrial	5,880,913	145,579	560,082	77,367	4,451	-	-	-	-	-	-	-	-	6,668,392	-	6,668,392
Retail Dealers	681,539	43,849	84,089	146,987	9,194	-	-	-	-	-	-	-	-	965,658	240,582	1,206,240
Byproduct	-	5,726	352	708,760	9,039	-	-	-	-	-	-	-	-	723,877	-	723,877
Water Gas	8,988	-	10,453	86,289	819,765	-	-	-	-	-	-	-	-	925,495	-	925,495
North Carolina																
Total	-	-	-	318	-	-	-	-	-	-	-	-	-	318	-	318
Retail Dealers	-	-	-	318	-	-	-	-	-	-	-	-	-	318	-	318
Pennsylvania																
Total	2,179,433	12,049	153,701	258,691	120,455	-	-	-	-	-	-	-	-	2,724,329	-	2,724,329
Industrial	2,179,433	2,085	109,334	5,336	-	-	-	-	-	-	-	-	-	2,296,188	-	2,296,188
Byproduct	-	9,964	44,367	253,355	120,455	-	-	-	-	-	-	-	-	428,141	-	428,141
Rhode Island																
Total	14,407	-	-	426,291	222,800	-	-	-	-	-	-	-	-	663,498	838,052	1,501,550
Industrial	14,407	-	-	241,718	19,654	-	-	-	-	-	-	-	-	275,779	50,770	326,549
Retail Dealers	-	-	-	1,359	-	-	-	-	-	-	-	-	-	1,359	787,282	788,641
Byproduct	-	-	-	59,996	-	-	-	-	-	-	-	-	-	59,996	-	59,996
Water Gas	-	-	-	123,218	203,146	-	-	-	-	-	-	-	-	326,364	-	326,364
South Carolina																
Total	-	-	-	451	-	-	-	-	-	-	-	-	-	451	-	451
Industrial	-	-	-	451	-	-	-	-	-	-	-	-	-	451	-	451
Vermont																
Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26,325	26,325
Industrial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26,047	26,047
Retail Dealers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	278	278
Virginia																
Total	1,054	-	-	19,021	-	-	-	-	-	-	-	-	-	20,075	-	20,075
Industrial	1,054	-	-	18,512	-	-	-	-	-	-	-	-	-	19,566	-	19,566
Retail Dealers	-	-	-	509	-	-	-	-	-	-	-	-	-	509	-	509
Unknown State																
Total	-	-	-	1,003	51	-	-	-	-	-	-	-	-	1,054	-	1,054
Retail Dealers	-	-	-	1,003	51	-	-	-	-	-	-	-	-	1,054	-	1,054
United States																
Total	11,786,321	320,059	1,553,736	6,090,948	2,877,806	-	-	-	-	-	-	-	-	22,628,870	8,662,656	31,291,526
Industrial	11,090,583	233,729	1,403,236	3,628,799	212,956	-	-	-	-	-	-	-	-	16,569,303	3,202,528	19,771,831
Retail Dealers	686,750	45,558	88,490	301,180	15,970	-	-	-	-	-	-	-	-	1,137,948	3,821,116	4,959,064
Byproduct	-	24,869	44,719	1,802,395	1,471,237	-	-	-	-	-	-	-	-	3,343,220	1,620,776	4,963,996
Water Gas	8,988	15,903	17,291	358,574	1,177,643	-	-	-	-	-	-	-	-	1,578,399	17,924	1,596,323
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	312	312
Alaska																
Total	-	-	-	-	-	-	-	-	-	-	5,591	353	-	5,944	-	5,944
Industrial	-	-	-	-	-	-	-	-	-	-	5,591	353	-	5,944	-	5,944
Canada																
Total	19,811	1,626	29,539	77,712	63,867	-	-	-	-	-	-	-	-	192,555	-	192,555
Use not reported	19,811	1,626	29,539	77,712	63,867	-	-	-	-	-	-	-	-	192,555	-	192,555
United States, Alaska and Canada																
Total	11,806,132	321,685	1,583,275	6,168,660	2,941,673	-	-	-	-	-	5,591	353	-	22,827,369	8,662,656	31,490,025
Industrial	11,090,583	233,729	1,403,236	3,628,799	212,956	-	-	-	-	-	5,591	353	-	16,575,247	3,202,528	19,777,775
Retail Dealers	686,750	45,558	88,490	301,180	15,970	-	-	-	-	-	-	-	-	1,137,948	3,821,116	4,959,064
Byproduct	-	24,869	44,719	1,802,395	1,471,237	-	-	-	-	-	-	-	-	3,343,220	1,620,776	4,963,996
Water Gas	8,988	15,903	17,291	358,574	1,177,643	-	-	-	-	-	-	-	-	1,578,399	17,924	1,596,323
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	312	312
Use not reported	19,811	1,626	29,539	77,712	63,867	-	-	-	-	-	-	-	-	192,555	-	192,555
Railroad Fuel	-	968	25,784	1,394	428,236	-	-	-	-	-	-	-	-	456,382	42,100	498,482
Bunker Fuel	325,992	8,422	214,736	587,252	88,327	-	12,627	38,426	-	97	1,608	-	1,634	1,279,121	32,563	1,311,684
Exports Overseas 3/	516,521	73,442	311,760	823,556	699,523	161,944	136,778	194,140	19,102	-	-	-	-	2,936,766	-	2,936,766
GRAND TOTAL	12,648,645	404,517	2,135,555	7,580,862	4,157,759	161,944	149,405	232,566	19,102	97	7,199	353	1,634	27,499,638	8,737,319	36,236,957

1/ Represents the distribution of coal that moved from the mines via tidewater during the year ended September 30, 1945 to consumer states, by uses.

2/ District of origin of coal moving from commercial docks not ascertainable.

3/ This item includes only such shipments to tidewater ports for cargoes destined to points outside the United States and Canada as are reported to this office. The tonnages shown are not all inclusive.

SHIPMENTS OF BITUMINOUS COAL VIA GREAT LAKES TO ALONGSIDE CONSUMERS AND EX-DOCK SHIPMENTS FROM COMMERCIAL DOCKS AS REPORTED ON CARGO MANIFESTS, INVOICES, SUMMARY REPORTS AND FORM S.F.A. NO. 48 DURING THE YEAR ENDED SEPTEMBER 30, 1945, BY DISTRICT OF ORIGIN, STATE OF DESTINATION AND USE 1/

TABLE 3.

State of Destination and Use	DISTRICT OF ORIGIN (Interport only to alongside consumers)									Total shipments to alongside consumers	Ex-dock shipments from commercial docks 2/	Grand Total
	1	2	3	4	6	7	8	9	10			
Illinois												
Total	-	382,187	2,472	-	-	522,708	1,031,645	-	-	1,939,012	140,669	2,079,681
Industrial	-	-	-	-	-	-	-	-	-	-	75,821	75,821
Retail Dealers	-	-	-	-	-	1,013	18,405	-	-	19,418	64,762	84,180
Byproduct	-	382,187	2,472	-	-	521,695	1,013,240	-	-	1,919,594	-	1,919,594
Smithing	-	-	-	-	-	-	-	-	-	-	86	86
Indiana												
Total	-	86,027	-	-	-	2,310,968	2,235,526	-	-	4,632,521	-	4,632,521
Byproduct	-	86,027	-	-	-	2,310,968	2,235,526	-	-	4,632,521	-	4,632,521
Iowa												
Total	-	-	-	-	-	-	-	-	-	-	109,316	109,316
Industrial	-	-	-	-	-	-	-	-	-	-	849	849
Retail Dealers	-	-	-	-	-	-	-	-	-	-	108,372	108,372
Water Gas	-	-	-	-	-	-	-	-	-	-	52	52
Smithing	-	-	-	-	-	-	-	-	-	-	43	43
Michigan												
Total	244,091	1,884,082	492,812	169,015	-	1,266,650	6,228,080	-	54,306	10,339,036	1,451,442	11,790,478
Industrial	244,091	1,446,537	232,305	155,871	-	542,534	4,078,709	-	50,200	6,750,247	606,383	7,356,630
Retail Dealers	-	6,095	-	13,144	-	9,245	323,982	-	4,106	356,572	828,052	1,184,624
Byproduct	-	421,683	260,507	-	-	714,871	1,822,941	-	-	3,220,002	15,210	3,235,212
Water Gas	-	9,767	-	-	-	-	2,448	-	-	12,215	-	12,215
Smithing	-	-	-	-	-	-	-	-	-	-	1,797	1,797
Minnesota												
Total	-	16,759	-	-	-	-	6,391	-	-	23,150	3,726,358	3,749,508
Industrial	-	16,759	-	-	-	-	6,391	-	-	23,150	1,239,324	1,262,474
Retail Dealers	-	-	-	-	-	-	-	-	-	-	2,038,115	2,038,115
Byproduct	-	-	-	-	-	-	-	-	-	-	440,182	440,182
Water Gas	-	-	-	-	-	-	-	-	-	-	6,337	6,337
Smithing	-	-	-	-	-	-	-	-	-	-	2,400	2,400
Nebraska												
Total	-	-	-	-	-	-	-	-	-	-	6,473	6,473
Retail Dealers	-	-	-	-	-	-	-	-	-	-	6,473	6,473
New York												
Total	645,984	1,064,678	542,458	-	22,006	696,016	153,318	-	-	3,124,460	36,086	3,160,546
Industrial	642,905	56,868	520,686	-	21,291	-	-	-	-	1,241,750	36,086	1,277,836
Retail Dealers	3,079	33,714	-	-	715	-	-	-	-	37,508	-	37,508
Byproduct	-	974,096	21,772	-	-	696,016	153,318	-	-	1,845,202	-	1,845,202
North Dakota												
Total	-	-	-	-	-	-	-	-	-	-	201,675	201,675
Industrial	-	-	-	-	-	-	-	-	-	-	32,751	32,751
Retail Dealers	-	-	-	-	-	-	-	-	-	-	168,866	168,866
Smithing	-	-	-	-	-	-	-	-	-	-	58	58
Ohio												
Total	-	-	-	-	-	112,373	322,850	-	-	435,223	-	435,223
Retail Dealers	-	-	-	-	-	260	956	-	-	1,216	-	1,216
Byproduct	-	-	-	-	-	112,113	321,894	-	-	434,007	-	434,007
Pennsylvania												
Total	-	-	-	-	-	68,862	159,974	-	-	228,836	-	228,836
Byproduct	-	-	-	-	-	68,862	159,974	-	-	228,836	-	228,836
South Dakota												
Total	-	-	-	-	-	-	-	-	-	-	336,203	336,203
Industrial	-	-	-	-	-	-	-	-	-	-	10,480	10,480
Retail Dealers	-	-	-	-	-	-	-	-	-	-	325,639	325,639
Smithing	-	-	-	-	-	-	-	-	-	-	84	84
Wisconsin												
Total	208,109	402,290	322,244	-	-	459,370	1,175,199	-	3,686	2,570,898	6,056,550	8,627,448
Industrial	208,109	375,823	307,482	-	-	40,927	126,407	-	3,686	1,062,434	2,395,585	3,458,019
Retail Dealers	-	-	-	-	-	21,580	31,577	-	-	53,157	3,515,650	3,568,807
Byproduct	-	26,467	14,762	-	-	396,863	961,188	-	-	1,399,280	144,842	1,544,122
Water Gas	-	-	-	-	-	-	56,027	-	-	56,027	-	56,027
Smithing	-	-	-	-	-	-	-	-	-	-	473	473
United States												
Total	1,098,184	3,836,023	1,359,986	169,015	22,006	5,436,947	11,312,983	-	57,992	23,293,136	12,064,772	35,357,908
Industrial	1,095,105	1,895,987	1,060,473	155,871	21,291	583,461	4,211,507	-	53,886	9,077,581	4,397,279	13,474,860
Retail Dealers	3,079	39,809	-	13,144	715	32,098	374,920	-	4,106	467,871	7,055,929	7,523,800
Byproduct	-	1,890,460	299,513	-	-	4,821,388	6,668,081	-	-	13,679,442	600,234	14,279,676
Water Gas	-	9,767	-	-	-	-	58,475	-	-	68,242	6,389	74,631
Smithing	-	-	-	-	-	-	-	-	-	-	4,941	4,941
Canada												
Total (Excludes Railroad Fuel)	1,514,727	1,918,928	2,159,817	415,162	217,425	1,129,964	3,840,713	38,552	-	11,235,288	16,675	11,251,963
Industrial	483,633	240,535	711,381	147,402	3,353	395,187	447,575	38,552	-	2,467,618	5,338	2,472,956
Retail Dealers	-	-	-	-	-	-	-	-	-	-	11,337	11,337
Byproduct	138,476	686,543	29,236	-	-	363,292	1,657,223	-	-	2,874,770	-	2,874,770
Water Gas	-	124,739	-	-	-	-	126,793	-	-	251,532	-	251,532
Storage or consignment 3/	892,618	867,111	1,419,200	267,760	214,072	371,485	1,609,122	-	-	5,641,368	-	5,641,368
United States and Canada												
Total	2,612,911	5,754,951	3,519,803	584,177	239,431	6,566,911	15,153,696	38,552	57,992	34,528,424	12,081,447	46,609,871
Industrial	1,578,738	2,136,522	1,771,854	303,273	24,644	978,648	4,659,082	38,552	53,886	11,545,199	4,402,617	15,947,816
Retail Dealers	3,079	39,809	-	13,144	715	32,098	374,920	-	4,106	467,871	7,067,266	7,535,137
Byproduct	138,476	2,577,003	328,749	-	-	5,184,680	8,325,304	-	-	16,554,212	600,234	17,154,446
Water Gas	-	134,506	-	-	-	-	185,268	-	-	319,774	6,389	326,163
Smithing	-	-	-	-	-	-	-	-	-	-	4,941	4,941
Storage or consignment 3/	892,618	867,111	1,419,200	267,760	214,072	371,485	1,609,122	-	-	5,641,368	-	5,641,368
Railroad Fuel - United States and Canada	35,501	456,107	317,838	1,553,581	82,731	58	131,796	526,748	68,421	3,172,781	2,074,527	5,247,308
Vessel Fuel	5,934	359,741	66,270	438,118	41,380	-	449,701	-	-	1,361,144	1,392,194	2,753,338
GRAND TOTAL	2,654,346	6,570,799	3,903,911	2,575,876	363,542	6,566,969	15,735,193	565,300	126,413	39,062,349	15,548,168	54,610,517

1/ Represents the distribution of coal that moved from mines via Great Lakes during the year ended September 30, 1945 to consumer states, by use.

2/ District of origin of coal moving from commercial docks not ascertainable.

3/ Interport movement to Canada for storage or consignment is shown since Canadian Dock Operators are not required to file Form S.F.A. No. 48 reporting distribution from commercial docks.

TABLE 4

133892

SHIPMENTS OF BITUMINOUS COAL AND LIGNITE DURING THE YEAR ENDED SEPTEMBER 30, 1945, BY DISTRICT OF ORIGIN, USE, CONSOLIDATED SIZE GROUP AND METHOD OF MOVEMENT AS REPORTED ON FORMS S.F.A. NOS. 38, 48, AND 56 AND CARGO MANIFESTS, INVOICES AND SUMMARY REPORTS

(In net tons of 2,000 pounds)

Size Group and Movement / District and Use	All Lump Coal and All double Screened Coal with Top Size over 2" (1)					All Double Screened Coal with Top Size not Exceeding 2" (2)					M/R Mod. M/R Dom. M/R Screened and Altered M/R and Minus Resultant with Top Size Over 2" (3)					All Minus Resultant and Dedusted Screenings with Top Size Over 3/4" and not exceeding 2" (4)				
	All Rail River and Ex-River 1/	Interport 2/		Truck 3/	Total	All Rail River and Ex-River 1/	Interport 2/		Truck 3/	Total	All Rail River and Ex-River 1/	Interport 2/		Truck 3/	Total	All Rail River and Ex-River 1/	Interport 2/		Truck 3/	Total
		Tidewater	Lake				Tidewater	Lake				Tidewater	Lake				Tidewater	Lake		
District 1. Eastern Pennsylvania																				
Total	2,062,532	123,712	122,209	123,948	2,432,401	1,502,263	299,607	336,029	59,996	2,197,895	21,427,269	9,703,002	1,158,822	1,009,203	33,298,296	2,725,079	378,060	266,560	72,598	3,442,297
Railroad Fuel	407,443	-	35,358	-	442,801	84,353	-	-	-	84,353	6,785,041	-	143	-	6,785,184	52,981	-	-	-	52,981
Industrial	709,112	6,398	9,671	-	725,181	967,185	74,656	101,998	-	1,143,839	9,929,762	8,590,748	889,663	-	19,410,173	1,856,715	352,612	89,861	-	2,299,188
Retail Dealers	871,126	45,989	-	-	917,115	407,340	219,429	1,799	-	628,568	1,067,707	347,314	1,280	-	1,416,301	152,755	23,592	-	-	176,347
Byproduct and Water Gas 5/	70,324	-	-	-	70,324	42,990	-	-	-	42,990	3,229,269	7,132	-	-	3,236,401	658,050	1,856	-	-	659,906
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	-	-	72,496	-	72,496	-	-	231,691	-	231,691	-	-	267,572	-	267,572	-	-	176,154	-	176,154
Bunker and Vessel Fuel	-	58,940	4,684	-	63,624	-	3,412	541	-	3,953	-	256,716	164	-	256,880	-	-	545	-	545
Export 6/	-	12,385	-	-	12,385	-	2,110	-	-	2,110	-	481,281	-	-	481,281	-	-	-	-	-
Use not Reported	4,527	-	-	123,948	128,475	395	-	-	59,996	60,391	415,490	19,811	-	1,009,203	1,444,504	4,578	-	-	72,598	77,176
District 2. Western Pennsylvania																				
Total	5,834,381	43,727	865,147	1,691,926	8,435,181	1,863,812	73,014	324,545	380,930	2,642,301	49,287,667	201,719	4,388,532	1,376,030	55,253,948	4,831,186	21,576	882,040	759,439	6,494,241
Railroad Fuel	1,428,394	968	133,394	-	1,562,756	180,296	-	-	-	180,296	8,554,427	-	316,431	-	8,870,858	539,728	-	6,282	-	546,010
Industrial	1,924,795	14,106	30,071	-	1,968,972	1,083,951	65,766	58,847	-	1,208,564	8,545,740	106,284	1,838,734	-	10,490,758	2,752,589	4,731	127,741	-	2,885,061
Retail Dealers	1,850,632	11,101	6,095	-	1,867,828	530,335	6,389	7,061	-	543,785	147,596	6,645	-	-	154,241	171,433	-	26,653	-	198,086
Byproduct and Water Gas 5/	568,901	-	250,463	-	819,364	53,385	-	65,276	-	118,661	31,351,585	25,040	1,940,550	-	33,317,175	1,300,854	15,732	450,582	-	1,767,168
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	13,098	-	204,865	-	217,963	-	-	185,090	-	185,090	-	-	284,998	-	284,998	-	-	169,030	-	169,030
Bunker and Vessel Fuel	-	1,099	240,259	-	241,358	-	-	8,271	-	8,271	-	7,107	7,819	-	14,926	-	-	101,752	-	101,752
Export 6/	-	16,349	-	-	16,349	-	859	-	-	859	-	55,121	-	-	55,121	-	1,113	-	-	1,113
Use not Reported	48,561	104	-	1,691,926	1,740,591	15,845	-	-	380,930	396,775	688,319	1,522	-	1,376,030	2,065,871	66,582	-	-	759,439	826,021
District 3. Northern West Virginia 7/																				
Total	2,499,135	126,230	327,553	39,430	2,992,348	6,208,929	685,421	971,803	93,162	7,959,315	20,592,313	814,107	1,247,878	73,364	22,727,662	2,400,554	40,618	607,987	3,635	3,052,794
Railroad Fuel	1,021,898	4,130	40,259	-	1,066,287	2,208,299	20,478	213,041	-	2,441,818	9,947,683	1,176	62,971	-	10,011,830	54,491	-	104	-	54,595
Industrial	364,017	233	20,974	-	385,224	2,286,469	541,640	110,516	-	2,938,625	5,042,555	405,762	648,261	-	6,096,578	2,050,515	39,928	401,403	-	2,491,846
Retail Dealers	1,033,561	17,426	-	-	1,050,987	1,331,728	11,934	-	-	1,343,662	543,023	20,009	-	-	563,032	208,312	690	-	-	209,002
Byproduct and Water Gas 5/	69,265	510	312	-	70,087	382,190	3,171	21,950	-	407,311	4,880,686	45,448	296,787	-	5,222,921	15,283	-	5,058	-	20,341
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	-	-	247,154	-	247,154	-	-	581,186	-	581,186	-	-	239,124	-	239,124	-	-	200,224	-	200,224
Bunker and Vessel Fuel	-	41,490	18,854	-	60,344	-	51,207	45,110	-	96,317	-	119,845	735	-	120,580	-	-	1,198	-	1,198
Export 6/	-	56,448	-	-	56,448	-	46,974	-	-	46,974	-	208,338	-	-	208,338	-	-	-	-	-
Use not Reported	10,394	5,993	-	39,430	55,817	243	10,017	-	93,162	103,422	178,366	13,529	-	73,364	265,259	71,953	-	-	3,635	75,588
District 4. Ohio																				
Total	4,126,964	-	872,739	1,192,703	6,192,406	1,060,240	-	104,621	351,547	1,516,408	10,526,011	-	1,312,695	1,976,254	13,814,960	4,493,195	-	155,577	757,049	5,405,821
Railroad Fuel	1,598,669	-	328,168	-	1,926,837	24,195	-	13,580	-	37,775	8,184,310	-	1,209,517	-	9,393,827	226,032	-	-	-	226,032
Industrial	677,240	-	16,227	-	693,467	704,225	-	35,837	-	740,062	2,259,865	-	54,999	-	2,314,864	4,017,701	-	88,611	-	4,106,312
Retail Dealers	1,838,857	-	6,060	-	1,844,917	330,445	-	7,084	-	337,529	33,701	-	-	-	33,701	238,726	-	-	-	238,726
Byproduct and Water Gas	-	-	-	-	-	255	-	-	-	255	3,600	-	-	-	3,600	2,872	-	-	-	2,872
Storage	-	-	102,841	-	102,841	-	-	43,039	-	43,039	-	-	45,501	-	45,501	-	-	58,500	-	58,500
Bunker and Vessel Fuel	-	-	419,443	-	419,443	-	-	5,081	-	5,081	-	-	2,678	-	2,678	-	-	8,466	-	8,466
Use not Reported	12,198	-	-	1,192,703	1,204,901	1,120	-	-	351,547	352,667	44,535	-	-	1,976,254	2,020,789	7,864	-	-	757,049	764,913
District 5. Michigan																				
Total	30,113	-	-	43,560	73,673	-	-	-	-	-	2.311	-	-	-	2,311	12,480	-	-	13,488	25,968
Railroad Fuel	2,602	-	-	-	2,602	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial	1,977	-	-	-	1,977	-	-	-	-	-	2,259	-	-	-	2,259	8,620	-	-	-	8,620
Retail Dealers	25,534	-	-	-	25,534	-	-	-	-	-	52	-	-	-	52	3,860	-	-	-	3,860
Use not Reported	-	-	-	43,560	43,560	-	-	-	-	-	-	-	-	-	-	-	-	-	13,488	13,488
District 6. Panhandle																				
Total	347,390	-	188,306	210,539	746,235	160,337	-	72,533	25,805	258,675	2,805,902	-	11,537	274,572	3,092,011	181,536	-	52,802	47,373	281,711
Railroad Fuel	80,592	-	53,799	-	134,391	1,740	-	18,392	-	20,132	1,139,969	-	10,540	-	1,150,509	4,940	-	-	-	4,940
Industrial	172,612	-	2,540	-	175,152	90,162	-	-	-	90,162	1,661,451	-	-	-	1,661,451	162,635	-	21,546	-	184,181
Retail Dealers	77,935	-	-	-	77,935	65,323	-	715	-	66,038	1,097	-	-	-	1,097	12,072	-	-	-	12,072
Storage	-	-	94,643	-	94,643	-	-	52,629	-	52,629	-	-	899	-	899	-	-	28,681	-	28,681
Bunker and Vessel Fuel	-	-	37,324	-	37,324	-	-	797	-	797	-	-	98	-	98	-	-	2,575	-	2,575
Use not Reported	16,251	-	-	210,539	226,790	3,112	-	-	25,805	28,917	3,385	-	-	274,572	277,957	1,889	-	-	47,373	49,262
District 7. Southern No. 1																				
Total	8,992,328	254,059	199,087	109,819	9,555,293	3,683,587	135,250	245,133	41,209	4,105,179	9,428,704	3,134,479	2,911,756	27,413	15,502,352	2,497,193	646,042	97,433	168	3,240,836
Railroad Fuel	35,496	-	58	-	35,554	18,093	-	-	-	18,093	677,894	1,394	-	-	679,288	59,516	-	-	-	59,516
Industrial	178,702	1,158	56	-	179,916	359,606	456	40,009	-	400,071	2,114,906	622,659	506,528	-	3,244,093	2,052,406	588,959	29,593	-	2,670,958
Retail Dealers	8,754,928	2,545	18,779	-	8,776,252	3,278,251	123,710	13,319	-	3,415,280	2,495,992	114,324	-	-	2,610,316	285,339	53,241	-	-	338,580
Byproduct and Water Gas 5/	752	1,362	3,091	-	5,205	17,839	-	6,346	-	24,185	3,850,495	1,322,455	2,396,845	-	7,569,795	80,016	353	67,840	-	148,209
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	-	-	177,103	-	177,103	-	-	185,459	-	185,459	-	-	8,383	-	8,383	-	-	-	-	-
Bunker and Vessel Fuel	-	53,875	-	-	53,875	-	6,992	-	-	6,992	-	435,506	-	-	435,506	-	2,446	-	-	2,446
Export 6/	-	180,876	-	-	180,876	-	3,005	-	-	3,005	-	575,759	-	-	575,759	-	1,043	-	-	1,043
Use not Reported	22,450	14,243	-	109,819	146,512	9,798	1,087	-	41,209	52,094	289,417	62,382	-	27,413	379,212	19,916	-	-	168	20,084
District 8. Southern No. 2																				
Total	23,779,585	660,535	2,405,729	670,392	27,516,241	6,447,170	163,050	777,953	90,336	7,478,509	26,683,628	2,800,646	8,292,868	166,215	37,943,357	19,366,806	330,810	3,830,964	51,148	23,579,728
Railroad Fuel	1,113,716	500	21,491	-	1,135,707	173,891	-	-	-	173,891	10,829,422	351,118	44,737	-	11,225,277	1,966,626	6,900	65,568	-	2,039,094
Industrial	3,669,870	36,691	364,715	-	4,071,276	1,582,318	955	85,960	-	1,669,233	6,957,447	117,376	1,693,461	-	8,768,284	13,368,450	9,618	2,264,518	-	15,642,586
Retail Dealers	17,925,370	3,348	236,677	-	18,165,395	4,389,829	7,040	92,963	-	4,489,832	364,963	1,459	9,603	-	376,025	2,060,466	1,878	33,482	-	2,095,826
Byproduct and Water Gas 5/	876,198	233,246	838,590	-	1,948,034	275,893	136,251	72,374	-	484,518	7,896,110	1,902,156	6,336,078	-	16,134,344	1,792,883	301,768	1,105,802	-	3,200,453
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	56,431	-	616,611	-	673,042	4,252	-	519,308	-	523,560	25,689	-	199,850	-	225,539	75,500	-	259,144	-	334,644
Bunker and Vessel Fuel	-	35,339	327,645	-	362,984	-	215	7,348	-	7,563	-	49,275	9,139	-	58,414	-	3,013	102,450	-	105,463
Export 6/	-	315,303	-	-	315,303	-	18,308	-	-	18,308	-	351,784	-	-	351,784	-	7,633	-	-	7,633
Use not Reported	138,000	36,108	-	670,392	844,500	20,987	281	-	90,336	111,604	609,997	27,478	-	166,215	803,690	102,881	-	-	51,148	154,029

TABLE 4.

SHIPMENTS OF BITUMINOUS COAL AND LIGNITE DURING THE YEAR ENDED SEPTEMBER 30, 1945, BY DISTRICT OF ORIGIN, USE, CONSOLIDATED SIZE GROUP AND METHOD OF MOVEMENT AS REPORTED ON FORMS S.F.A. NOS. 38, 48, AND 56 AND CARGO MANIFESTS, INVOICES AND SUMMARY REPORTS

(In net tons of 2,000 pounds)

Size Group and Movement / District and Use	All Minus Resultant and Dedusted Screenings with Top Size not exceeding 3/4" (5)					Total Columns 1 through 5 (6)					Size not reported (7)					Other disposals, use and size not specified (8)	Coal used at mines 4/ (9)	Net change in inventory (10)	Grand total Columns 6 through 10 (11)
	All-rail River and Ex-river 1/	Interport 2/		Truck 3/	Total	All-rail River and Ex-river 1/	Interport 2/		Truck 3/	Total	All-rail River and Ex-river 1/	Interport 2/		Truck 3/	Total				
		Tidewater	Lake				Tidewater	Lake				Tidewater	Lake						
District 1. Eastern Pennsylvania																			
Total	4,347,055	2,076,667	770,726	114,673	7,309,121	32,064,198	12,581,048	2,654,346	1,380,418	48,680,010	115,360	67,597	-	3,283	186,240	241	612,115	-44,727	49,433,879
Railroad Fuel	265,104	-	-	-	265,104	7,594,922	-	35,501	-	7,630,423	-	-	-	-	-				
Industrial	3,538,505	2,050,617	487,545	-	6,076,667	17,001,279	11,075,031	1,578,738	-	29,655,048	18,265	15,552	-	-	33,817				
Retail Dealers	69,064	23,717	-	-	92,781	2,567,992	660,041	3,079	-	3,231,112	3,543	26,709	-	-	30,252				
Byproduct and Water Gas 5/	472,954	-	138,476	-	611,430	4,473,587	8,988	138,476	-	4,621,051	-	-	-	-	-				
Smithing	-	-	-	-	-	-	-	-	-	-	86,190	-	-	-	86,190				
Storage	-	-	144,705	-	144,705	-	-	892,618	-	892,618	-	-	-	-	-				
Bunker and Vessel Fuel	-	752	-	-	752	-	319,820	5,934	-	325,754	-	6,172	-	-	6,172				
Export 6/	-	1,581	-	-	1,581	-	497,357	-	-	497,357	-	19,164	-	-	19,164				
Use not Reported	1,428	-	-	114,673	116,101	426,418	19,811	-	1,380,418	1,826,647	7,362	-	-	3,283	10,645				
District 2. Western Pennsylvania																			
Total	1,736,022	43,203	103,449	184,970	2,067,644	63,553,068	383,239	6,563,713	4,393,295	74,893,315	20,459	21,278	7,086	17,258	66,081	4,250	408,602	-38,331	75,333,917
Railroad Fuel	80,606	-	-	-	80,606	10,783,451	968	456,107	-	11,240,526	859	-	-	-	859				
Industrial	1,132,453	42,842	75,683	-	1,250,978	15,439,528	233,729	2,131,076	-	17,804,333	10,183	-	5,446	-	15,629				
Retail Dealers	6,229	145	-	-	6,374	2,706,225	24,280	39,809	-	2,770,314	731	21,278	-	-	22,009				
Byproduct and Water Gas 5/	489,764	-	4,638	-	494,402	33,764,489	40,772	2,711,509	-	36,516,770	2,302	-	-	-	2,302				
Smithing	-	-	-	-	-	-	-	-	-	-	1,509	-	-	-	1,509				
Storage	-	-	23,128	-	23,128	13,098	-	867,111	-	880,209	-	-	-	-	-				
Bunker and Vessel Fuel	-	216	-	-	216	-	8,422	358,101	-	366,523	-	-	1,640	-	1,640				
Export 6/	-	-	-	-	-	-	73,442	-	-	73,442	-	-	-	-	-				
Use not Reported	26,970	-	-	184,970	211,940	846,277	1,626	-	4,393,295	5,241,198	4,875	-	-	17,258	22,133				
District 3. Northern West Virginia																			
Total	3,011,582	447,091	741,056	149	4,199,878	34,712,513	2,113,467	3,896,277	209,740	40,931,997	36,760	22,088	7,634	1,327	67,809	5,866	132,263	-13,784	41,124,151
Railroad Fuel	51,465	-	1,463	-	52,928	13,283,836	25,784	317,838	-	13,627,458	1,601	-	-	-	1,601				
Industrial	2,731,904	415,673	590,700	-	3,738,277	12,475,460	1,403,236	1,771,854	-	15,650,550	21,279	-	-	-	21,279				
Retail Dealers	42,727	18,104	-	-	60,831	3,159,351	68,163	-	-	3,227,514	6,196	20,327	-	-	26,523				
Byproduct and Water Gas 5/	185,486	12,881	4,642	-	203,009	5,532,910	62,010	328,749	-	5,923,669	-	-	-	-	-				
Smithing	-	-	-	-	-	-	-	-	-	-	166	-	-	-	166				
Storage	-	-	143,921	-	143,921	-	-	1,411,609	-	1,411,609	-	-	7,591	-	7,591				
Bunker and Vessel Fuel	-	433	330	-	763	-	212,975	66,227	-	279,202	-	1,761	43	-	1,804				
Export 6/	-	-	-	-	-	-	311,760	-	-	311,760	-	-	-	-	-				
Use not Reported	-	-	-	149	149	260,956	29,539	-	209,740	500,235	7,518	-	-	1,327	8,845				
District 4. Ohio																			
Total	1,714,325	-	107,381	138,612	1,960,318	21,920,735	-	2,553,013	4,416,165	28,889,913	651,974	-	22,863	19,986	694,823	2,731	91,964	-6,019	29,673,412
Railroad Fuel	25,071	-	2,316	-	27,387	10,058,277	-	1,553,581	-	11,611,858	4,150	-	-	-	4,150				
Industrial	1,631,175	-	87,463	-	1,718,638	9,290,206	-	283,137	-	9,573,343	636,907	-	20,136	-	657,043				
Retail Dealers	44,380	-	-	-	44,380	2,486,109	-	13,144	-	2,499,253	4,466	-	-	-	4,466				
Byproduct and Water Gas	9,762	-	-	-	9,762	16,489	-	-	-	16,489	-	-	-	-	-				
Storage	-	-	16,910	-	16,910	-	-	266,791	-	266,791	-	-	969	-	969				
Bunker and Vessel Fuel	-	-	692	-	692	-	-	436,360	-	436,360	-	-	1,758	-	1,758				
Use not Reported	3,937	-	-	138,612	142,549	69,654	-	-	4,416,165	4,485,819	6,451	-	-	19,986	26,437				
District 5. Michigan																			
Total	-	-	-	-	-	44,904	-	-	57,048	101,952	-	-	-	-	-	-	9,023	5	110,980
Railroad Fuel	-	-	-	-	-	2,602	-	-	-	2,602	-	-	-	-	-				
Industrial	-	-	-	-	-	12,856	-	-	-	12,856	-	-	-	-	-				
Retail Dealers	-	-	-	-	-	29,446	-	-	-	29,446	-	-	-	-	-				
Use not Reported	-	-	-	-	-	-	-	-	57,048	57,048	-	-	-	-	-				
District 6. Panhandle																			
Total	191,971	-	37,778	14,562	244,311	3,687,136	-	362,956	572,851	4,622,943	2,045	-	586	4,450	7,081	-	5,188	-9,622	4,625,590
Railroad Fuel	15,351	-	-	-	15,351	1,242,592	-	82,731	-	1,325,323	-	-	-	-	-				
Industrial	173,583	-	558	-	174,141	2,260,443	-	24,644	-	2,285,087	-	-	-	-	-				
Retail Dealers	2,175	-	-	-	2,175	158,602	-	715	-	159,317	-	-	-	-	-				
Storage	-	-	37,220	-	37,220	-	-	214,072	-	214,072	-	-	-	-	-				
Bunker and Vessel Fuel	-	-	-	-	-	-	-	40,794	-	40,794	-	-	586	-	586				
Use not Reported	862	-	-	14,562	15,424	25,499	-	-	572,851	598,350	2,045	-	-	4,450	6,495				
District 7. Southern No. 1																			
Total	7,294,770	3,344,538	3,099,085	1,433	13,739,826	31,896,582	7,514,368	6,552,494	180,042	46,143,486	250,928	66,494	14,475	349	332,246	2,455	771,179	-103,920	47,145,446
Railroad Fuel	102,327	-	-	-	102,327	893,326	1,394	58	-	894,778	52,205	-	-	-	52,205				
Industrial	2,969,669	2,415,116	402,462	-	5,787,247	7,675,289	3,628,348	978,648	-	12,282,285	168,524	451	-	-	168,975				
Retail Dealers	197,191	7,125	-	-	204,316	15,011,701	300,945	32,098	-	15,344,744	3,263	235	-	-	3,498				
Byproduct and Water Gas 5/	4,010,587	836,799	2,696,083	-	7,543,469	7,959,689	2,160,969	5,170,205	-	15,290,863	54	-	14,475	-	14,529				
Smithing	-	-	-	-	-	-	-	-	-	-	23,206	-	-	-	23,206				
Storage	-	-	540	-	540	-	-	371,485	-	371,485	-	-	-	-	-				
Bunker and Vessel Fuel	-	80,237	-	-	80,237	-	579,056	-	-	579,056	-	8,196	-	-	8,196				
Export 6/	-	5,261	-	-	5,261	-	765,944	-	-	765,944	-	57,612	-	-	57,612				
Use not Reported	14,996	-	-	1,433	16,429	356,577	77,712	-	180,042	614,331	3,676	-	-	349	4,025				
District 8. Southern No. 2																			
Total	5,061,213	139,809	425,279	6,501	5,632,802	81,338,402	4,094,850	15,732,793	984,592	102,150,637	337,178	62,909	2,400	19,578	422,065	19,379	841,102	49,756	103,482,939
Railroad Fuel	79,311	8,209	-	-	87,520	14,162,966	366,727	131,796	-	14,661,489	62,026	61,509	-	-	123,535				
Industrial	4,231,734	48,316	250,428	-	4,530,478	29,809,819	212,956	4,659,082	-	34,681,857	207,802	-	-	-	207,802				
Retail Dealers	31,282	2,245	-	-	33,527	24,771,910	15,970	372,725	-	25,160,605	29,293	-	2,195	-	31,488				
Byproduct and Water Gas 5/	699,109	75,459	157,728	-	932,296	11,540,193	2,648,880	8,510,572	-	22,699,645	9,547	-	-	-	9,547				
Smithing	-	-	-	-	-	-	-	-	-	-	10,758	-	-	-	10,758				
Storage	-	-	14,209	-	14,209	161,872	-	1,609,122	-	1,770,994	6,777	-	-	-	6,777				
Bunker and Vessel Fuel	-	379	2,914	-	3,293	-	88,221	449,496	-	537,717	-	106	205	-	311				
Export 6/	-	5,201	-	-	5,201	-	698,229	-	-	698,229	-	1,294	-	-	1,294				
Use not Reported	19,777	-	-	6,501	26,278	891,642	63,867	-	984,592	1,940,101	10,975	-	-	19,578	30,553				

TABLE 4.

SHIPMENT OF BITUMINOUS COAL AND LIGNITE DURING THE YEAR ENDED SEPTEMBER 30, 1945 (Continued)

133892

Size Group and Movement / District and Use	All Lump Coal and All Double Screened Coal with Top Size Over 2" (1)					All Double Screened Coal with Top Size not Exceeding 2" (2)					M/R Mod. M/R Dom M/R Screened and Altered M/R and Minus Resultant with Top Size Over 2" (3)					All Minus Resultant and Dedusted Screenings with Top Size Over 3/4" and not Exceeding 2" (4)				
	All-Rail, River and Ex-River 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total	All-Rail, River and Ex-River 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total	All-Rail, River and Ex-River 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total	All-Rail, River and Ex-River 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total
District 9. West Kentucky																				
Total	4,167,264	24,494	166,152	418,441	4,776,351	1,015,723	7,843	-	33,049	1,056,615	6,578,374	129,607	387,611	49,090	7,144,682	3,353,345	-	11,537	42,905	3,407,787
Railroad Fuel	1,085,686	-	166,152	-	1,251,838	45,882	-	-	-	45,882	5,693,139	-	356,813	-	6,049,952	137,592	-	3,783	-	141,375
Industrial	819,582	-	-	-	819,582	293,636	-	-	-	293,636	740,013	-	30,798	-	770,811	2,569,598	-	7,754	-	2,577,352
Retail Dealers	2,257,460	-	-	-	2,257,460	659,854	-	-	-	659,854	76,574	-	-	-	76,574	633,218	-	-	-	633,218
Byproduct and Water Gas 5/	-	-	-	-	-	-	-	-	-	-	2,765	-	-	-	2,765	-	-	-	-	-
Export 6/	-	24,494	-	-	24,494	-	7,843	-	-	7,843	-	129,607	-	-	129,607	-	-	-	-	-
Use not Reported	4,536	-	-	418,441	422,977	16,351	-	-	33,049	49,400	65,883	-	-	49,090	114,973	12,937	-	-	42,905	55,842
District 10. Illinois																				
Total	19,005,558	121,984	43,287	2,991,238	22,162,067	2,915,114	10,675	6,152	756,044	3,687,985	16,522,673	-	26,471	49,162	16,598,306	22,785,329	-	50,503	1,575,701	24,411,533
Railroad Fuel	10,060,469	-	41,950	-	10,102,419	359,823	-	-	-	359,823	10,727,650	-	26,471	-	10,754,121	2,039,413	-	-	-	2,039,413
Industrial	1,349,943	-	1,337	-	1,351,280	1,110,305	-	4,293	-	1,114,598	5,586,687	-	-	-	5,586,687	16,547,787	-	48,256	-	16,596,043
Retail Dealers	7,556,840	-	-	-	7,556,840	1,253,787	-	1,859	-	1,255,646	130,475	-	-	-	130,475	4,022,668	-	2,247	-	4,024,915
Byproduct and Water Gas	1,524	-	-	-	1,524	190,601	-	-	-	190,601	-	-	-	-	-	122,676	-	-	-	122,676
Bunker and Vessel Fuel	-	416	-	-	416	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Export 6/	-	121,568	-	-	121,568	-	10,675	-	-	10,675	-	-	-	-	-	-	-	-	-	-
Use not Reported	36,782	-	-	2,991,238	3,028,020	598	-	-	756,044	756,642	77,861	-	-	49,162	127,023	52,785	-	-	1,575,701	1,628,486
District 11. Indiana																				
Total	10,010,208	-	-	921,291	10,931,499	1,980,876	-	-	194,150	2,175,026	1,619,691	-	-	228,301	1,847,992	8,821,084	-	-	394,803	9,215,887
Railroad Fuel	6,934,402	-	-	-	6,934,402	116,903	-	-	-	116,903	1,537,453	-	-	-	1,537,453	317,467	-	-	-	317,467
Industrial	825,340	-	-	-	825,340	1,129,257	-	-	-	1,129,257	77,623	-	-	-	77,623	7,983,085	-	-	-	7,983,085
Retail Dealers	2,157,364	-	-	-	2,157,364	733,182	-	-	-	733,182	2,821	-	-	-	2,821	488,648	-	-	-	488,648
Byproduct and Water Gas	71,845	-	-	-	71,845	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Use not Reported	21,257	-	-	921,291	942,548	1,534	-	-	194,150	195,684	1,794	-	-	228,301	230,095	31,884	-	-	394,803	426,687
District 12. Iowa																				
Total	308,313	-	-	282,881	591,194	12,954	-	-	56,568	69,522	26,807	-	-	22,289	49,096	595,959	-	-	260,474	856,433
Railroad Fuel	173,106	-	-	-	173,106	-	-	-	-	-	-	-	-	-	-	35,918	-	-	-	35,918
Industrial	12,997	-	-	-	12,997	7,028	-	-	-	7,028	15,030	-	-	-	15,030	548,617	-	-	-	548,617
Retail Dealers	122,210	-	-	-	122,210	5,926	-	-	-	5,926	4,775	-	-	-	4,775	11,424	-	-	-	11,424
Byproduct and Water Gas	-	-	-	-	-	-	-	-	-	-	1,664	-	-	-	1,664	-	-	-	-	-
Use not Reported	-	-	-	282,881	282,881	-	-	-	56,568	56,568	5,338	-	-	22,289	27,627	-	-	-	260,474	260,474
District 13. Southeastern																				
Total	1,602,174	4,799	-	185,447	1,792,420	314,812	42	-	22,125	336,979	6,223,836	193,805	-	152,118	6,569,759	8,183,589	33,920	-	16,848	8,234,357
Railroad Fuel	27,411	-	-	-	27,411	7,582	-	-	-	7,582	3,676,583	-	-	-	3,676,583	61,508	-	-	-	61,508
Industrial	539,528	-	-	-	539,528	167,824	-	-	-	167,824	1,241,100	-	-	-	1,241,100	1,631,568	-	-	-	1,631,568
Retail Dealers	1,029,378	-	-	-	1,029,378	138,792	-	-	-	138,792	9,134	-	-	-	9,134	87,782	-	-	-	87,782
Byproduct and Water Gas 5/	5,857	-	-	-	5,857	614	-	-	-	614	1,295,144	-	-	-	1,295,144	6,402,731	-	-	-	6,402,731
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bunker and Vessel Fuel	-	258	-	-	258	-	-	-	-	-	-	24,152	-	-	24,152	-	14,016	-	-	14,016
Export 6/	-	4,541	-	-	4,541	-	42	-	-	42	-	169,653	-	-	169,653	-	19,904	-	-	19,904
Use not Reported	-	-	-	185,447	185,447	-	-	-	22,125	22,125	1,875	-	-	152,118	153,993	-	-	-	16,848	16,848
District 14. Arkansas - Oklahoma																				
Total	1,018,224	-	-	12,062	1,030,286	69,123	-	-	1,174	70,297	486,041	-	-	2,349	488,390	119,041	-	-	-	119,041
Railroad Fuel	3,492	-	-	-	3,492	1,652	-	-	-	1,652	138,100	-	-	-	138,100	51	-	-	-	51
Industrial	22,261	-	-	-	22,261	5,547	-	-	-	5,547	155,769	-	-	-	155,769	53,696	-	-	-	53,696
Retail Dealers	965,247	-	-	-	965,247	60,083	-	-	-	60,083	94,460	-	-	-	94,460	64,073	-	-	-	64,073
Byproduct and Water Gas	-	-	-	-	-	-	-	-	-	-	95,132	-	-	-	95,132	-	-	-	-	-
Use not Reported	27,224	-	-	12,062	39,286	1,841	-	-	1,174	3,015	2,580	-	-	2,349	4,929	1,221	-	-	-	1,221
District 15. Southwestern																				
Total	3,361,164	-	-	497,038	3,858,202	599,431	-	-	50,999	650,430	8/ 1,761,460	-	-	8/ 131,814	8/ 1,893,274	2,742,718	-	-	138,841	2,881,559
Railroad Fuel	1,038,795	-	-	-	1,038,795	19,706	-	-	-	19,706	892,267	-	-	-	892,267	58,184	-	-	-	58,184
Industrial	541,718	-	-	-	541,718	167,766	-	-	-	167,766	8/ 651,264	-	-	-	8/ 651,264	2,342,862	-	-	-	2,342,862
Retail Dealers	1,762,548	-	-	-	1,762,548	411,959	-	-	-	411,959	8/ 16,509	-	-	-	8/ 16,509	336,354	-	-	-	336,354
Byproduct and Water Gas	-	-	-	-	-	-	-	-	-	-	183,513	-	-	-	183,513	-	-	-	-	-
Use not Reported	18,103	-	-	497,038	515,141	-	-	-	50,999	50,999	17,907	-	-	8/ 131,814	8/ 149,721	5,318	-	-	138,841	144,159
District 16. Northern Colorado																				
Total	494,787	-	-	366,324	861,111	78,739	-	-	134,928	213,667	21,432	-	-	9,559	30,991	762,252	-	-	212,316	974,568
Railroad Fuel	65,346	-	-	-	65,346	-	-	-	-	-	95	-	-	-	95	29,848	-	-	-	29,848
Industrial	63,563	-	-	-	63,563	20,637	-	-	-	20,637	20,543	-	-	-	20,543	538,026	-	-	-	538,026
Retail Dealers	365,878	-	-	-	365,878	58,102	-	-	-	58,102	794	-	-	-	794	194,378	-	-	-	194,378
Use not Reported	-	-	-	366,324	366,324	-	-	-	134,928	134,928	-	-	-	9,559	9,559	-	-	-	212,316	212,316
District 17. Southern Colorado																				
Total	1,582,469	4,475	-	284,210	1,871,154	83,205	1,243	-	11,691	96,139	1,707,435	13,384	-	5,568	1,726,387	1,837,842	-	-	154,022	1,991,864
Railroad Fuel	63,579	-	-	-	63,579	14,555	-	-	-	14,555	1,551,710	-	-	-	1,551,710	322,327	-	-	-	322,327
Industrial	196,058	-	-	-	196,058	16,020	-	-	-	16,020	18,023	-	-	-	18,023	261,901	-	-	-	261,901
Retail Dealers	1,247,494	-	-	-	1,247,494	51,227	-	-	-	51,227	979	-	-	-	979	260,688	-	-	-	260,688
Byproduct and Water Gas 5/	45,445	-	-	-	45,445	1,182	-	-	-	1,182	136,620	-	-	-	136,620	991,001	-	-	-	991,001
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Export 6/	-	4,475	-	-	4,475	-	1,243	-	-	1,243	-	13,384	-	-	13,384	-	-	-	-	-
Use not Reported	29,893	-	-	284,210	314,103	221	-	-	11,691	11,912	103	-	-	5,568	5,671	1,925	-	-	154,022	155,947
District 18. New Mexico																				
Total	206,143	-	-	19,407	225,550	18,760	-	-	3,120	21,880	260	-	-	7,265	7,525	97,256	-	-	156	97,412
Railroad Fuel	124,473	-	-	-	124,473	-	-	-	-	-	-	-	-	-	-	61,766	-	-	-	61,766
Industrial	22,472	-	-	-	22,472	6,454	-	-	-	6,454	-	-	-	-	-	31,709	-	-	-	31,709
Retail Dealers	59,198	-	-	-	59,198	12,306	-	-	-	12,306	260	-	-	-	260	3,781	-	-	-	3,781
Use not Reported	-	-	-	19,407	19,407	-	-	-	3,120	3,120	-	-	-	7,265	7,265	-	-	-	156	156

TABLE 4.

SHIPMENTS OF BITUMINOUS COAL AND LIGNITE DURING THE YEAR ENDED SEPTEMBER 30, 1945 (Continued)

133892

Size Group and Movement / District and Use	All Minus Resultant and Deducted Screenings with Top Size not Exceeding 3/4" (5)					Total Columns 1 through 5 (6)					Size not Reported (7)					Other disposals, use and size not specified (8)	Coal used at mines 4/ (9)	Net change in inventory (10)	Grand total Columns 6 through 10 (11)
	All-rail, River and Ex-river 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total	All-rail, River and Ex-river 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total	All-rail, River and Ex-river 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total				
District 9. West Kentucky																			
Total	385,411	-	-	10,826	396,237	15,500,117	161,944	565,300	554,311	16,781,672	110	-	-	4,867	4,977	240	95,939	2,771	16,885,599
Railroad Fuel	71,585	-	-	-	71,585	7,033,884	-	526,748	-	7,560,632	-	-	-	-	-				
Industrial	285,728	-	-	-	285,728	4,708,557	-	38,552	-	4,747,109	-	-	-	-	-				
Retail Dealers	7,454	-	-	-	7,454	3,634,560	-	-	-	3,634,560	-	-	-	-	-				
Byproduct and Water Gas 5/	-	-	-	-	-	2,765	-	-	-	2,765	-	-	-	-	-				
Export 6/	-	-	-	-	-	-	161,944	-	-	161,944	-	-	-	-	-				
Use not Reported	20,644	-	-	10,826	31,470	120,351	-	-	554,311	674,662	110	-	-	4,867	4,977				
District 10. Illinois																			
Total	3,344,934	-	-	166,626	3,511,560	64,573,608	132,659	126,413	5,538,771	70,371,451	12,467	16,746	-	66,457	95,670	7,596	1,119,476	-45,586	71,548,607
Railroad Fuel	76,538	-	-	-	76,538	23,263,893	-	68,421	-	23,332,314	10,028	-	-	-	10,028				
Industrial	2,639,389	-	-	-	2,639,389	27,234,111	-	53,886	-	27,287,997	1,216	-	-	-	1,216				
Retail Dealers	604,355	-	-	-	604,355	13,568,125	-	4,106	-	13,572,231	1,223	-	-	-	1,223				
Byproduct and Water Gas	-	-	-	-	-	314,801	-	-	-	314,801	-	-	-	-	-				
Bunker and Vessel Fuel	-	-	-	-	-	-	416	-	-	416	-	12,211	-	-	12,211				
Export 6/	-	-	-	-	-	-	132,243	-	-	132,243	-	4,535	-	-	4,535				
Use not Reported	24,652	-	-	166,626	191,278	192,678	-	-	5,538,771	5,731,449	-	-	-	66,457	66,457				
District 11. Indiana																			
Total	1,241,645	-	-	39,008	1,280,653	23,673,504	-	-	1,777,553	25,451,057	111,579	-	-	33,724	145,303	54	154,230	13,993	25,764,637
Railroad Fuel	1,309	-	-	-	1,309	8,907,534	-	-	-	8,907,534	12,371	-	-	-	12,371				
Industrial	1,204,460	-	-	-	1,204,460	11,219,765	-	-	-	11,219,765	95,361	-	-	-	95,361				
Retail Dealers	35,876	-	-	-	35,876	3,417,891	-	-	-	3,417,891	3,847	-	-	-	3,847				
Byproduct and Water Gas	-	-	-	-	-	71,845	-	-	-	71,845	-	-	-	-	-				
Use not Reported	-	-	-	39,008	39,008	56,469	-	-	1,777,553	1,834,022	-	-	-	33,724	33,724				
District 12. Iowa																			
Total	-	-	-	812	812	944,033	-	-	623,024	1,567,057	1,312	-	-	6,171	7,483	-	17,166	-3,963	1,587,743
Railroad Fuel	-	-	-	-	-	209,024	-	-	-	209,024	-	-	-	-	-				
Industrial	-	-	-	-	-	583,672	-	-	-	583,672	755	-	-	-	755				
Retail Dealers	-	-	-	-	-	144,335	-	-	-	144,335	557	-	-	-	557				
Byproduct and Water Gas	-	-	-	-	-	1,664	-	-	-	1,664	-	-	-	-	-				
Use not Reported	-	-	-	812	812	5,338	-	-	623,024	628,362	-	-	-	6,171	6,171				
District 13. Southeastern																			
Total	50,532	-	-	14,435	64,967	16,374,943	232,566	-	390,973	16,998,482	37,507	-	-	40	37,547	214	183,927	16,061	17,236,231
Railroad Fuel	-	-	-	-	-	3,773,084	-	-	-	3,773,084	-	-	-	-	-				
Industrial	50,532	-	-	-	50,532	3,630,552	-	-	-	3,630,552	6,832	-	-	-	6,832				
Retail Dealers	-	-	-	-	-	1,265,086	-	-	-	1,265,086	298	-	-	-	298				
Byproduct and Water Gas 5/	-	-	-	-	-	7,704,346	-	-	-	7,704,346	-	-	-	-	-				
Smithing	-	-	-	-	-	-	-	-	-	-	29,698	-	-	-	29,698				
Bunker and Vessel Fuel	-	-	-	-	-	-	38,426	-	-	38,426	-	-	-	-	-				
Export 6/	-	-	-	-	-	-	194,140	-	-	194,140	-	-	-	-	-				
Use not Reported	-	-	-	14,435	14,435	1,875	-	-	390,973	392,848	679	-	-	40	719				
District 14. Arkansas - Oklahoma																			
Total	166,128	-	-	-	166,128	1,858,557	-	-	15,585	1,874,142	30,637	-	-	30	30,667	356	9,475	-4,172	1,910,468
Railroad Fuel	4,172	-	-	-	4,172	147,467	-	-	-	147,467	7,339	-	-	-	7,339				
Industrial	81,879	-	-	-	81,879	319,152	-	-	-	319,152	16,098	-	-	-	16,098				
Retail Dealers	80,077	-	-	-	80,077	1,263,940	-	-	-	1,263,940	5,911	-	-	-	5,911				
Byproduct and Water Gas	-	-	-	-	-	95,132	-	-	-	95,132	599	-	-	-	599				
Use not Reported	-	-	-	-	-	32,866	-	-	15,585	48,451	690	-	-	30	720				
District 15. Southwestern																			
Total	1,139	-	-	5,354	6,493	8,465,912	-	-	824,046	9,289,958	14,188	-	-	583	14,771	40	37,713	-6,771	9,335,711
Railroad Fuel	-	-	-	-	-	2,008,952	-	-	-	2,008,952	2,617	-	-	-	2,617				
Industrial	1,139	-	-	-	1,139	3,704,749	-	-	-	3,704,749	3,380	-	-	-	3,380				
Retail Dealers	-	-	-	-	-	2,527,370	-	-	-	2,527,370	7,258	-	-	-	7,258				
Byproduct and Water Gas	-	-	-	-	-	183,513	-	-	-	183,513	-	-	-	-	-				
Use not Reported	-	-	-	5,354.	5,354	41,328	-	-	824,046	865,374	933	-	-	583	1,516				
District 16. Northern Colorado																			
Total	140,707	-	-	26,740	167,447	1,497,917	-	-	749,867	2,247,784	-	-	-	518	518	87	56,965	-4,716	2,300,638
Railroad Fuel	-	-	-	-	-	95,289	-	-	-	95,289	-	-	-	-	-				
Industrial	133,614	-	-	-	133,614	776,383	-	-	-	776,383	-	-	-	-	-				
Retail Dealers	7,093	-	-	-	7,093	626,245	-	-	-	626,245	-	-	-	-	-				
Use not Reported	-	-	-	26,740	26,740	-	-	-	749,867	749,867	-	-	-	518	518				
District 17. Southern Colorado																			
Total	115,150	-	-	5,528	120,678	5,326,101	19,102	-	461,019	5,806,222	17,171	-	-	686	17,857	-	114,289	1,806	5,940,174
Railroad Fuel	6,090	-	-	-	6,090	1,958,261	-	-	-	1,958,261	251	-	-	-	251				
Industrial	26,033	-	-	-	26,033	518,035	-	-	-	518,035	15,874	-	-	-	15,874				
Retail Dealers	112	-	-	-	112	1,560,500	-	-	-	1,560,500	154	-	-	-	154				
Byproduct and Water Gas 5/	82,915	-	-	-	82,915	1,257,163	-	-	-	1,257,163	-	-	-	-	-				
Smithing	-	-	-	-	-	-	-	-	-	-	892	-	-	-	892				
Export 6/	-	-	-	-	-	-	19,102	-	-	19,102	-	-	-	-	-				
Use not Reported	-	-	-	5,528	5,528	32,142	-	-	461,019	493,161	-	-	-	686	686				
District 18. New Mexico																			
Total	7,352	-	-	-	7,352	329,771	-	-	29,948	359,719	-	-	-	998	998	-	21,847	-5,947	376,617
Railroad Fuel	6,759	-	-	-	6,759	192,998	-	-	-	192,998	-	-	-	-	-				
Industrial	593	-	-	-	593	61,228	-	-	-	61,228	-	-	-	-	-				
Retail Dealers	-	-	-	-	-	75,545	-	-	-	75,545	-	-	-	-	-				
Use not Reported	-	-	-	-	-	-	-	-	29,948	29,948	-	-	-	998	998				

TABLE 2.

SHIPMENTS OF BITUMINOUS COAL AND LIGNITE DURING THE YEAR ENDED SEPTEMBER 30, 1945 (Continued)

Size Group and Movement / District and Use	All Lump Coal and All Double Screened Coal with Top Size Over 2" (1)					All Double Screened Coal with Top Size not Exceeding 2" (2)					M/R Mod. M/R Dom. M/R Screened and Altered M/R and Minus Resultant with Top Size Over 2" (3)					All Minus Resultant and Dedusted Screenings with Top Size Over 3/4" and not Exceeding 2" (4)				
	All Rail River and Ex-River 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total	All Rail River and Ex-River 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total	All Rail River and Ex-River 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total	All Rail River and Ex-River 1/	Interport 2/ Tidewater	Interport 2/ Lake	Truck 3/	Total
District 19. Wyoming																				
Total	1,209,832	-	-	75,005	1,284,837	140,369	97	-	9,646	150,112	6,756,065	-	-	342	6,756,407	1,328,603	-	-	10,060	1,338,663
Railroad Fuel	279,158	-	-	-	279,158	30,303	-	-	-	30,303	6,577,565	-	-	-	6,577,565	390,164	-	-	-	390,164
Industrial	351,668	-	-	-	351,668	13,093	-	-	-	13,093	178,279	-	-	-	178,279	683,436	-	-	-	683,436
Retail Dealers	548,232	-	-	-	548,232	96,973	-	-	-	96,973	160	-	-	-	160	228,062	-	-	-	228,062
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bunker and Vessel Fuel	-	-	-	-	-	-	97	-	-	97	-	-	-	-	-	-	-	-	-	-
Use not Reported	30,774	-	-	75,005	105,779	-	-	-	9,646	9,646	61	-	-	342	403	26,941	-	-	10,060	37,001
District 20. Utah																				
Total	2,000,606	5,318	-	136,851	2,142,775	116,976	406	-	537	117,919	2,402,145	1,395	-	12	2,403,552	1,842,880	-	-	39,100	1,881,980
Railroad Fuel	57,392	-	-	-	57,392	19,726	-	-	-	19,726	569,742	-	-	-	569,742	379,286	-	-	-	379,286
Industrial	285,519	5,288	-	-	290,807	10,166	223	-	-	10,389	96,015	-	-	-	96,015	751,364	-	-	-	751,364
Retail Dealers	1,468,349	-	-	-	1,468,349	87,084	-	-	-	87,084	554	-	-	-	554	690,876	-	-	-	690,876
Byproduct and Water Gas 5/	143,632	-	-	-	143,632	-	-	-	-	-	1,730,890	-	-	-	1,730,890	1,969	-	-	-	1,969
Bunker and Vessel Fuel	-	30	-	-	30	-	183	-	-	183	-	1,395	-	-	1,395	-	-	-	-	-
Use not Reported	45,714	-	-	136,851	182,565	-	-	-	537	537	4,944	-	-	12	4,956	19,385	-	-	39,100	58,485
District 21. North and South Dakota																				
Total	814,033	-	-	45,014	859,047	217,490	-	-	4,626	222,116	8/ 497,325	-	-	8/ 54,213	8/ 551,538	9/ 377,996	-	-	-	9/ 377,996
Railroad Fuel	16,280	-	-	-	16,280	1,354	-	-	-	1,354	8/ 92,372	-	-	-	8/ 92,372	9/ 8,154	-	-	-	9/ 8,154
Industrial	39,283	-	-	-	39,283	67,283	-	-	-	67,283	8/ 403,199	-	-	-	8/ 403,199	9/ 367,372	-	-	-	9/ 367,372
Retail Dealers	758,470	-	-	-	758,470	148,853	-	-	-	148,853	8/ 1,754	-	-	-	8/ 1,754	9/ 2,470	-	-	-	9/ 2,470
Use not Reported	-	-	-	45,014	45,014	-	-	-	4,626	4,626	-	-	-	8/ 54,213	8/ 54,213	-	-	-	-	-
District 22. Montana																				
Total	488,490	-	-	44,644	533,134	179,793	-	-	6,364	186,157	3,408,012	-	-	-	3,408,012	271,966	-	-	3,600	275,566
Railroad Fuel	20,429	-	-	-	20,429	677	-	-	-	677	3,374,531	-	-	-	3,374,531	100,878	-	-	-	100,878
Industrial	131,363	-	-	-	131,363	41,581	-	-	-	41,581	33,481	-	-	-	33,481	152,116	-	-	-	152,116
Retail Dealers	315,624	-	-	-	315,624	114,994	-	-	-	114,994	-	-	-	-	-	18,972	-	-	-	18,972
Use not Reported	21,074	-	-	44,644	65,718	22,541	-	-	6,364	28,905	-	-	-	-	-	-	-	-	3,600	3,600
District 23. Washington and Alaska																				
Total	102,442	-	-	142,306	244,748	114,196	353	-	154,750	269,299	281,519	-	-	1,104	282,623	148,863	-	-	3,173	152,036
Railroad Fuel	2,208	-	-	-	2,208	282	-	-	-	282	249,276	-	-	-	249,276	55	-	-	-	55
Industrial	81,654	-	-	-	81,654	74,889	353	-	-	75,242	31,715	-	-	-	31,715	116,383	-	-	-	116,383
Retail Dealers	18,297	-	-	-	18,297	35,582	-	-	-	35,582	528	-	-	-	528	18,470	-	-	-	18,470
Byproduct and Water Gas	-	-	-	-	-	3,340	-	-	-	3,340	-	-	-	-	-	13,955	-	-	-	13,955
Use not reported	283	-	-	142,306	142,589	103	-	-	154,750	154,853	-	-	-	1,104	1,104	-	-	-	3,173	3,173
Unknown District																				
Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bunker and Vessel Fuel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total (excluding ex-dock movement)																				
Total	94,044,135	1,369,333	5,190,209	10,504,476	111,108,153	28,783,899	1,377,001	2,838,769	2,482,756	35,482,425	189,046,880	16,992,144	19,738,170	5,616,237	231,393,431	89,776,752	1,451,026	5,955,403	4,556,897	101,740,078
Railroad Fuel	25,641,036	5,598	820,629	-	26,467,263	3,309,312	20,478	245,013	-	3,574,803	81,199,229	353,688	2,027,623	-	83,580,540	6,846,925	6,900	75,737	-	6,929,562
Industrial	12,981,274	63,874	445,591	-	13,490,739	10,205,402	684,049	437,460	-	11,326,911	45,762,726	9,842,829	5,662,444	-	61,267,999	60,849,151	995,848	3,079,283	-	64,924,282
Retail Dealers	53,010,532	80,409	267,611	-	53,358,552	14,201,955	368,502	124,800	-	14,695,257	4,993,908	489,751	10,883	-	5,494,542	10,194,827	79,401	62,382	-	10,336,610
Byproduct and Water Gas 5/	1,853,743	235,118	1,092,456	-	3,181,317	968,289	139,422	165,946	-	1,273,657	54,657,473	3,302,231	10,970,260	-	68,929,964	11,382,290	319,709	1,629,282	-	13,331,281
Smithing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage	69,529	-	1,515,713	-	1,585,242	4,252	-	1,798,402	-	1,802,654	25,689	-	1,046,327	-	1,072,016	75,500	-	891,733	-	967,233
Bunker and Vessel Fuel	-	191,447	1,048,209	-	1,239,656	-	62,106	67,148	-	129,254	-	893,996	20,633	-	914,629	-	19,475	216,986	-	236,461
Export 6/	-	736,439	-	-	736,439	-	91,059	-	-	91,059	-	1,984,927	-	-	1,984,927	-	29,693	-	-	29,693
Use not Reported	488,021	56,448	-	10,504,476	11,048,945	94,689	11,385	-	2,482,756	2,588,830	2,407,855	124,722	-	5,616,237	8,148,814	428,059	-	-	4,556,897	4,984,956
Tidewater-ex-dock movement 9/																				
Total	-	-	-	-	125,058	-	-	-	-	1,685,580	-	-	-	-	3,755,324	-	-	-	-	10/ 3,029,889
Railroad Fuel	-	-	-	-	-	-	-	-	-	143	-	-	-	-	6,649	-	-	-	-	10/ 35,308
Industrial	-	-	-	-	31,403	-	-	-	-	518,433	-	-	-	-	1,150,631	-	-	-	-	10/ 1,401,310
Retail Dealers	-	-	-	-	93,013	-	-	-	-	1,157,712	-	-	-	-	1,271,303	-	-	-	-	10/ 1,258,371
Byproduct and Water Gas	-	-	-	-	299	-	-	-	-	6,103	-	-	-	-	1,302,384	-	-	-	-	10/ 329,914
Smithing	-	-	-	-	312	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bunker and Vessel Fuel	-	-	-	-	31	-	-	-	-	3,189	-	-	-	-	24,357	-	-	-	-	10/ 4,986
Lake-ex-dock movement 9/																				
Total	-	-	-	-	3,653,772	-	-	-	-	2,109,187	-	-	-	-	3,103,930	-	-	-	-	10/ 6,673,535
Railroad Fuel	-	-	-	-	46,242	-	-	-	-	5,539	-	-	-	-	1,759,657	-	-	-	-	10/ 257,821
Industrial	-	-	-	-	412,961	-	-	-	-	383,056	-	-	-	-	203,477	-	-	-	-	10/ 3,403,123
Retail Dealers	-	-	-	-	2,889,501	-	-	-	-	1,626,790	-	-	-	-	261,314	-	-	-	-	10/ 2,287,185
Byproduct and Water Gas	-	-	-	-	18,911	-	-	-	-	3	-	-	-	-	29,405	-	-	-	-	10/ 558,304
Smithing	-	-	-	-	731	-	-	-	-	397	-	-	-	-	3,202	-	-	-	-	10/ 611
Bunker and Vessel Fuel	-	-	-	-	285,426	-	-	-	-	93,402	-	-	-	-	846,875	-	-	-	-	10/ 166,491
GRAND TOTAL	-	-	-	-	114,886,983	-	-	-	-	39,277,192	-	-	-	-	238,252,685	-	-	-	-	111,443,502

1/ Includes shipments by truck to byproduct and beehive coke ovens away from the producing mine and for smithing use as follows: District 1, 12,488 tons; District 2, 1,051,429 tons; District 3, 17,653 tons; District 10, 115,703 tons; District 17,126 tons; District 19, 50 tons; District 23, 2,772 tons.

2/ Includes shipments via tidewater to alongside consumers and via Great Lakes to alongside consumers and for consignment to Canada.

3/ Truck data not reported by use.

4/ Includes coal used to produce coal, coal used by mine employees, and coal made into briquets or packaged fuel at the reporting mine.

5/ Includes shipments to beehive coke ovens also.

6/ This item includes only such shipments to tidewater ports for cargoes destined to points outside the United States as are reported to this office. The tonnages shown here are not all inclusive.

7/ In the case of District 3 the tonnages shown in Column 1 for the all-rail, river and ex-river movement and truck movement represent lump coal and double-screened coal with a bottom size larger than 2". The tonnages shown in Column 2 for these same movements represent lump coal and double-screened coal with a bottom size 2" and smaller.

8/ Includes some crushed lignite.

9/ District of origin not ascertainable.

10/ Includes all screenings. Breakdown of size of screenings not reported.

11/ Included with "All minus resultant and dedusted screenings with top size over 3/4" and not exceeding 2".

TABLE 4.

SHIPMENTS OF BITUMINOUS COAL AND LIGNITE DURING THE YEAR ENDED SEPTEMBER 30, 1945 (Continued)

133092

Size Group and Movement / District and Use	All Minus Resultant and Dedusted Screenings with Top Size not Exceeding 3/4" (5)					Total Columns 1 through 5 (6)					Size not reported (7)					Other disposals, use and size not specified (8)	Coal used at mines 4/ (9)	Net change in inventory (10)	Grand total Columns 6 through 10. (11)
	All-rail, River and Ex-river 1/	Interport 2/		Truck 3/	Total	All-rail, River and Ex-river 1/	Interport 2/		Truck 3/	Total	All-rail, River and Ex-river 1/	Interport 2/		Truck 3/	Total				
		Tidewater	Lake				Tidewater	Lake				Tidewater	Lake						
District 19. Wyoming																			
Total	9,665	-	-	-	9,665	9,444,534	97	-	95,053	9,539,684	49	-	-	55	104	868	137,000	1,787	9,679,443
Railroad Fuel	-	-	-	-	-	7,277,190	-	-	-	7,277,190	-	-	-	-	-				
Industrial	9,331	-	-	-	9,331	1,235,807	-	-	-	1,235,807	-	-	-	-	-				
Retail Dealers	322	-	-	-	322	873,749	-	-	-	873,749	-	-	-	-	-				
Smithing	12	-	-	-	12	12	-	-	-	12	49	-	-	-	49				
Bunker and Vessel Fuel	-	-	-	-	-	-	97	-	-	97	-	-	-	-	-				
Use not Reported	-	-	-	-	-	57,776	-	-	95,053	152,829	-	-	-	55	55				
District 20. Utah																			
Total	57,483	80	-	-	57,563	6,420,090	7,199	-	176,500	6,603,789	-	-	-	715	715	53	29,557	1,429	6,635,543
Railroad Fuel	275	-	-	-	275	1,026,421	-	-	-	1,026,421	-	-	-	-	-				
Industrial	57,112	80	-	-	57,192	1,200,176	5,591	-	-	1,205,767	-	-	-	-	-				
Retail Dealers	96	-	-	-	96	2,246,959	-	-	-	2,246,959									
Byproduct and Water Gas 5/	-	-	-	-	-	1,876,491	-	-	-	1,876,491	-	-	-	-	-				
Bunker and Vessel Fuel	-	-	-	-	-	-	1,608	-	-	1,608	-	-	-	-	-				
Use not Reported	-	-	-	-	-	70,043	-	-	176,500	246,543	-	-	-	715	715				
District 21. North and South Dakota																			
Total	10/	-	-	-	10/	1,906,844	-	-	103,853	2,010,697	-	-	-	-	-	-	119,063	-175	2,129,585
Railroad Fuel	10/	-	-	-	10/	118,160	-	-	-	118,160	-	-	-	-	-				
Industrial	10/	-	-	-	10/	877,137	-	-	-	877,137	-	-	-	-	-				
Retail Dealers	10/	-	-	-	10/	911,547	-	-	-	911,547	-	-	-	-	-				
Use not Reported	-	-	-	-	-	-	-	-	103,853	103,853	-	-	-	-	-				
District 22. Montana																			
Total	109,641	-	-	348	109,989	4,457,902	-	-	54,956	4,512,858	49	-	-	-	49	-	16,567	2,250	4,531,724
Railroad Fuel	27,040	-	-	-	27,040	3,523,555	-	-	-	3,523,555	49	-	-	-	49				
Industrial	76,598	-	-	-	76,598	435,139	-	-	-	435,139	-	-	-	-	-				
Retail Dealers	6,003	-	-	-	6,003	455,593	-	-	-	455,593	-	-	-	-	-				
Use not Reported	-	-	-	348	348	43,615	-	-	54,956	98,571	-	-	-	-	-				
District 23. Washington and Alaska																			
Total	89,376	-	-	2,047	91,423	736,396	353	-	303,380	1,040,129	171,887	-	-	-	171,887	158	25,981	12,437	1,250,592
Railroad Fuel	-	-	-	-	-	251,821	-	-	-	251,821	171,887	-	-	-	171,887				
Industrial	60,200	-	-	-	60,200	364,841	353	-	-	365,194	-	-	-	-	-				
Retail Dealers	447	-	-	-	447	73,324	-	-	-	73,324	-	-	-	-	-				
Byproduct and Water Gas	-	-	-	-	-	17,295	-	-	-	17,295	-	-	-	-	-				
Use not Reported	28,729	-	-	2,047	30,776	29,115	-	-	303,380	332,495	-	-	-	-	-				
Unknown District																			
Total	-	-	-	-	-	-	-	-	-	-	-	1,634	-	-	1,634	-	-	-	1,634
Bunker and Vessel Fuel	-	-	-	-	-	-	-	-	-	-	-	1,634	-	-	1,634				
Total (excluding ex-dock movement)																			
Total	29,076,101	6,051,388	5,284,754	732,624	41,144,867	430,727,767	27,240,892	39,007,305	23,892,990	520,868,954	1,811,660	258,746	55,044	181,075	2,306,525	44,588	5,010,631	-185,438	528,045,260
Railroad Fuel	813,003	8,209	3,779	-	824,991	117,809,505	394,873	3,172,781	-	121,377,159	325,383	61,509	-	-	380,892				
Industrial	21.035,631	4,972,644	1,894,839	-	27,903,114	150,834,184	16,559,244	11,519,617	-	178,913,045	1,202,476	16,003	25,582	-	1,244,061				
Retail Dealers	1,134,883	51,336	-	-	1,186,219	83,536,105	1,069,399	465,676	-	85,071,180	66,740	68,549	2,195	-	137,484				
Byproduct and Water Gas 5/	5,950,577	925,139	3,001,567	-	9,877,283	74,812,372	4,921,619	16,859,511	-	96,593,502	12,502	-	14,475	-	26,977				
Smithing	12	-	-	-	12	12	-	-	-	12	152,468	-	-	-	152,468				
Storage	-	-	380,633	-	380,633	174,970	-	5,632,808	-	5,807,778	6,777	-	8,560	-	15,337				
Bunker and Vessel Fuel	-	82,017	3,936	-	85,953	-	1,249,041	1,356,912	-	2,605,953	-	30,080	4,232	-	34,312				
Export 6/	-	12,043	-	-	12,043	-	2,854,161	-	-	2,854,161	-	82,605	-	-	82,605				
Use not Reported	141,995	-	-	732,624	874,619	3,560,619	192,555	-	23,892,990	27,646,164	45,314	-	-	181,075	226,389				
Tidewater - ex-dock movement 9/																			
Total	-	-	-	-	11/	-	-	-	-	8,595,851	-	-	-	-	141,468	-	-	-	8,737,319
Railroad Fuel	-	-	-	-	11/	-	-	-	-	42,100	-	-	-	-	-				
Industrial	-	-	-	-	11/	-	-	-	-	3,101,777	-	-	-	-	100,751				
Retail Dealers	-	-	-	-	11/	-	-	-	-	3,780,399	-	-	-	-	40,717				
Byproduct and Water Gas	-	-	-	-	11/	-	-	-	-	1,638,700	-	-	-	-	-				
Smithing	-	-	-	-	-	-	-	-	-	312	-	-	-	-	-				
Bunker and Vessel Fuel	-	-	-	-	11/	-	-	-	-	32,563	-	-	-	-	-				
Lake - ex-dock movement 9/																			
Total	-	-	-	-	11/	-	-	-	-	15,540,424	-	-	-	-	7,744	-	-	-	15,548,168
Railroad Fuel	-	-	-	-	11/	-	-	-	-	2,069,259	-	-	-	-	5,268				
Industrial	-	-	-	-	11/	-	-	-	-	4,402,617	-	-	-	-	-				
Retail Dealers	-	-	-	-	11/	-	-	-	-	7,064,790	-	-	-	-	2,476				
Byproduct and Water Gas	-	-	-	-	11/	-	-	-	-	606,623	-	-	-	-	-				
Smithing	-	-	-	-	11/	-	-	-	-	4,941	-	-	-	-	-				
Bunker and Vessel Fuel	-	-	-	-	11/	-	-	-	-	1,392,194	-	-	-	-	-				
GRAND TOTAL	-	-	-	-	41,144,718	-	-	-	-	545,005,229	-	-	-	-	2,455,737	44,588	5,010,631	-185,438	552,330,747

RECAPITULATION OF THE DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945, AS REPORTED ON FORMS S.F.A. NOS. 38 AND 56, BY DISTRICT OF ORIGIN, METHOD OF MOVEMENT, AND/OR USE

(In Net Tons of 2,000 Pounds)

TABLE 5

(Includes mines with an average daily capacity of 50 tons or more and all mines, washeries, and preparation plants with rail or river connections)

133892

Method of Movement and/or Use	DISTRICT OF ORIGIN											
	1	2	3	4	5	6	7	8	9	10	11	12
Total all-rail movements - Industrial Use	16,705,464	11,448,735	11,379,873	9,258,601	12,856	625,559	7,678,583	26,597,793	4,399,080	23,118,356	10,824,250	584,427
Total all-rail movements - Retail Dealers	2,571,535	2,471,513	3,159,597	2,490,575	29,446	158,602	15,014,964	23,780,741	3,573,949	13,299,075	3,421,738	144,892
Total shipments of railroad fuel, other than shipments to tidewater and lake	7,594,922	10,784,310	13,285,437	10,062,427	2,602	1,242,592	945,531	14,224,992	7,033,884	23,273,921	8,919,905	209,024
Total shipments of coal to byproduct and beehive coke plants, other than to tidewater and lake	4,473,587	33,766,791	5,532,910	16,489	-	-	7,959,743	11,549,740	2,765	314,801	71,845	1,664
Total shipments of smithing coal other than to tidewater and lake	86,190	1,509	166	-	-	-	23,206	10,758	-	-	-	-
Total river shipments, other than for railroad fuel, byproduct, or smithing use	967	2,861,835	532,614	622,327	-	702,102	-	2,967,985	308,059	4,249,032	-	-
Total ex-river shipments, other than for railroad fuel, byproduct or smithing use	-	99,751	159,691	-	-	-	-	1,027,191	-	10,658	-	-
Total shipments to tidewater	12,312,262	598,606	3,615,639	-	-	13,627	13,868,344	6,919,634	25,053	610,559	-	-
Total shipments to the Great Lakes	2,508,437	7,298,133	4,192,031	4,137,169	-	463,977	9,806,079	21,861,199	558,603	131,497	-	-
Total shipments to distributors and wholesalers where the final destination and use are not known	433,780	851,152	208,606	76,105	-	27,544	317,933	892,815	120,461	192,678	56,469	5,338
Total all-rail, river and ex-river shipments to storage piles	-	13,098	59,868	-	-	-	42,320	178,451	-	-	-	-
Shipments by truck or wagon, other than deliveries to byproduct plants and to coke ovens and for smithing use	1,383,701	4,410,553	211,067	4,436,151	57,048	577,301	180,391	1,004,170	559,178	5,605,228	1,811,277	629,195
Shipments via private railroad, other than deliveries to byproduct plants and to coke ovens and for smithing use	-	152,984	42	30,859	-	-	-	2,152	-	-	-	-
Shipments via tramway, other than deliveries to byproduct plants and to coke ovens and for smithing use	41,018	178,152	-	15,326	-	-	-	373,912	42,645	-	-	-
Shipments via conveyor belt, other than deliveries to byproduct plants and to coke ovens and for smithing use	272,095	943,697	430,469	-	-	932,782	165,230	69,050	19,384	127,554	490,876	-
Total Tonnage Shipped	48,383,958	75,880,819	42,768,010	31,146,029	101,952	4,744,086	56,002,324	111,460,583	16,643,061	70,933,359	25,596,360	1,574,540
Coal used by mine employees	174,323	333,983	81,108	58,530	1,332	2,256	428,908	717,105	26,820	279,194	23,904	13,305
Coal used to produce coal	437,792	74,619	51,155	33,434	7,691	2,932	166,442	123,997	69,119	840,282	130,326	3,861
Coal made into briquettes or packaged fuel at the reporting mine	-	-	-	-	-	-	175,829	-	-	-	-	-
Other disposals not specified above	241	4,250	5,866	2,731	-	-	2,455	19,379	240	7,596	54	-
Total Tons Shipped or Used	48,996,314	76,293,671	42,906,139	31,240,724	110,975	4,749,274	56,775,958	112,321,064	16,739,240	72,060,431	25,750,644	1,591,706
Net Change in Inventories	-44,727	-38,331	-13,784	-6,019	5	-9,622	-103,920	49,756	2,771	-45,586	13,993	-3,963
Total Production Reported	48,951,587	76,255,340	42,892,355	31,234,705	110,980	4,739,652	56,672,038	112,370,820	16,742,011	72,014,845	25,764,637	1,587,743
Percent of Estimated Production	86.8	93.9	95.8	91.2	81.0	96.8	97.5	94.6	88.6	99.1	96.3	67.9

RECAPITULATION OF THE DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE PRODUCED DURING THE YEAR ENDED SEPTEMBER 30, 1945, AS REPORTED ON FORMS S.F.A. NOS. 38 AND 56, BY DISTRICT OF ORIGIN, METHOD OF MOVEMENT, AND/OR USE

(In Net Tons of 2,000 Pounds)

TABLE 5

(Includes mines with an average daily capacity of 50 tons or more and all mines, washeries, and preparation plants with rail or river connections)

133892

Method of Movement and/or Use	DISTRICT OF ORIGIN											
	13	14	15	16	17	18	19	20	21	22	23	Total
Total all-rail movements - Industrial Use	3,033,327	335,250	3,683,836	753,791	519,455	38,777	1,235,807	1,198,261	877,137	435,139	344,328	135,088,685
Total all-rail movements - Retail Dealers	1,265,384	1,269,851	2,534,628	626,245	1,560,654	75,545	873,749	2,246,959	911,547	455,593	73,324	82,010,106
Total shipments of railroad fuel, other than shipments to tidewater and lake	3,773,084	154,806	2,011,569	95,289	1,958,512	192,998	7,277,190	1,026,421	118,160	3,523,604	423,708	118,134,888
Total shipments of coal to byproduct and beehive coke plants, other than to tidewater and lake	7,704,346	95,731	183,513	-	1,257,163	-	-	1,876,491	-	-	17,295	74,824,874
Total shipments of smithing coal, other than to tidewater and lake	29,698	-	-	-	892	-	61	-	-	-	-	152,480
Total river shipments, other than for railroad fuel, byproduct, or smithing use	261,929	-	-	-	-	-	-	-	-	-	-	12,506,850
Total ex-river shipments, other than for railroad fuel, byproduct or smithing use	-	-	-	-	-	-	-	-	-	-	-	1,297,291
Total shipments to tidewater	629,393	741	-	-	37,831	-	-	1,046	-	-	236	38,632,971
Total shipments to the Great Lakes	-	-	-	-	-	-	-	-	-	-	-	50,957,125
Total shipments to distributors and wholesalers where the final destination and use are not known	2,554	33,556	41,328	-	32,142	-	57,776	70,043	-	43,615	29,115	3,493,010
Total all-rail, river and ex-river shipments to storage piles	-	-	-	-	-	-	-	-	-	-	-	293,737
Shipments by truck or wagon, other than deliveries to byproduct plants and to coke ovens and for smithing use	391,013	15,615	824,629	750,385	461,705	30,946	95,108	177,215	103,853	54,956	303,380	24,074,065
Shipments via private railroad, other than deliveries to byproduct plants and to coke ovens and for smithing use	323,788	-	24,293	-	-	-	-	-	-	-	20,513	554,631
Shipments via tramway, other than deliveries to byproduct plants and to coke ovens and for smithing use	18,340	-	-	-	7,313	-	-	-	-	-	-	676,706
Shipments via conveyor belt, other than deliveries to byproduct plants and to coke ovens and for smithing use	-	-	-	22,592	7,141	22,451	-	1,915	-	-	-	3,505,236
Total Tonnage Shipped	17,432,856	1,905,550	9,303,796	2,248,302	5,842,808	360,717	9,539,691	6,598,351	2,010,697	4,512,907	1,211,899	546,202,655
Coal used by mine employees	94,955	4,547	12,338	15,885	26,264	3,737	34,568	13,776	9,563	9,882	11,068	2,377,351
Coal used to produce coal	88,972	4,928	25,375	41,080	88,025	18,110	102,432	15,781	84,840	6,685	14,913	2,432,791
Coal made into briquettes or packaged fuel at the reporting mine	-	-	-	-	-	-	-	-	24,660	-	-	200,489
Other disposals not specified above	214	356	973	87	-	-	868	53	-	-	158	45,521
Total Tons Shipped or Used	17,616,997	1,915,381	9,342,482	2,305,354	5,957,097	382,564	9,677,559	6,627,961	2,129,760	4,529,474	1,238,038	551,258,807
Net Change in Inventories	16,061	-4,172	-6,771	-4,716	1,806	-5,947	1,787	1,429	-175	2,250	12,437	-185,438
Total Production Reported	17,633,058	1,911,209	9,335,711	2,300,638	5,958,903	376,617	9,679,346	6,629,390	2,129,585	4,531,724	1,250,475	551,073,369
Percent of Estimated Production	87.3	83.9	96.2	98.2	95.0	72.8	98.2	99.0	86.0	94.0	72.8	94.0

PRODUCTION OF BITUMINOUS COAL AND LIGNITE BY CONSOLIDATED SIZE GROUPS DURING THE YEAR ENDED SEPTEMBER 30, 1945
AS REPORTED ON FORMS S.F.A. NOS. 38 AND 56
(In net tons of 2,000 pounds)

TABLE 6

(Includes mines with an average daily capacity of 50 tons or more and all mines, washeries, and preparation plants with rail or river connections)

133892

District and Movement	All Lump Coal and All Double Screened Coal with Top Size Over 2" (1)		All Double Screened Coal with Top Size not exceeding 2" (2)		M/R Mod. M/R Dom. M/R Screened and Altered M/R and Minus Resultant with Top Size Over 2" (3)		All Minus Resultant and Dedusted Screenings with Top Size Over 3/4" and not exceeding 2" (4)		All Minus Resultant and Dedusted Screenings with Top Size not exceeding 3/4" (5)		Total Columns 1 through 5 (6)		Size not reported (7)	Coal used at mines 1/ (8)	Net change in inventory (9)	Grand total Columns 6 through 9 (10)
	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent				
District 1. Eastern Pennsylvania																
Total	2,747,221	5.7	2,136,680	4.4	32,442,761	67.2	3,629,114	7.5	7,309,285	15.2	48,265,061	100.0	119,138	612,115	- 44,727	48,951,587
Truck	123,948	9.0	59,996	4.3	1,009,203	73.1	72,598	5.3	114,673	8.3	1,380,418	100.0	3,283			
Railroad fuel 2/	407,443	5.4	84,353	1.1	6,785,041	89.3	52,981	0.7	265,104	3.5	7,594,922	100.0	-			
Other 3/	2,215,830	5.6	1,992,331	5.1	24,648,517	62.7	3,503,535	8.9	6,929,508	17.7	39,289,721	100.0	115,855			
District 2. Western Pennsylvania																
Total	8,866,632	11.7	2,827,430	3.8	55,026,068	72.5	7,005,327	9.2	2,114,267	2.8	75,839,724	100.0	45,345	408,602	- 38,331	76,255,340
Truck	1,691,926	38.5	380,930	8.7	1,376,030	31.3	759,439	17.3	184,970	4.2	4,393,295	100.0	17,258			
Railroad fuel 2/	1,428,394	13.2	180,296	1.7	8,554,427	79.3	539,728	5.0	80,606	0.8	10,783,451	100.0	859			
Other 3/	5,746,312	9.5	2,266,204	3.8	45,095,611	74.3	5,706,160	9.4	1,848,691	3.0	60,662,978	100.0	27,228			
District 3. Northern West Virginia 4/																
Total	3,066,226	7.2	7,732,605	18.1	24,271,924	56.8	3,318,366	7.8	4,339,843	10.1	42,728,964	100.0	44,912	132,263	- 13,784	42,892,355
Truck	39,430	18.8	93,162	44.4	73,364	35.0	3,635	1.8	149	5/	209,740	100.0	1,327			
Railroad fuel 2/	1,021,898	7.7	2,208,299	16.6	9,947,683	74.9	54,491	0.4	51,465	0.4	13,283,836	100.0	1,601			
Other 3/	2,004,898	6.9	5,431,144	18.5	14,250,877	48.7	3,260,240	11.2	4,288,229	14.7	29,235,388	100.0	41,984			
District 4. Ohio																
Total	6,459,518	21.2	1,561,803	5.1	14,828,668	48.8	5,670,036	18.7	1,886,235	6.2	30,406,260	100.0	742,500	91,964	- 6,019	31,234,705
Truck	1,192,703	27.0	351,547	8.0	1,976,254	44.8	757,049	17.1	138,612	3.1	4,416,165	100.0	19,986			
Railroad fuel 2/	1,598,669	15.9	24,195	0.2	8,184,310	81.4	226,032	2.3	25,071	0.2	10,058,277	100.0	4,150			
Other	3,668,146	23.0	1,186,061	7.4	4,668,104	29.3	4,686,955	29.4	1,722,552	10.9	15,931,818	100.0	718,364			
District 5. Michigan																
Total	73,673	72.3	-	-	2,311	2.2	25,968	25.5	-	-	101,952	100.0	-	9,023	5	110,980
Truck	43,560	76.4	-	-	-	-	13,488	23.6	-	-	57,048	100.0	-			
Railroad fuel	2,602	100.0	-	-	-	-	-	-	-	-	2,602	100.0	-			
Other	27,511	65.0	-	-	2,311	5.5	12,480	29.5	-	-	42,302	100.0	-			
District 6. Panhandle																
Total	743,833	15.7	245,460	5.2	3,184,638	67.2	307,431	6.5	256,229	5.4	4,737,591	100.0	6,495	5,188	- 9,622	4,739,652
Truck	210,539	36.7	25,805	4.5	274,572	47.9	47,373	8.3	14,562	2.6	572,851	100.0	4,450			
Railroad fuel 2/	80,592	6.5	1,740	0.1	1,139,969	91.8	4,940	0.4	15,351	1.2	1,242,592	100.0	-			
Other	452,702	15.4	217,915	7.4	1,770,097	60.6	255,118	8.8	226,316	7.8	2,922,148	100.0	2,045			
District 7. Southern No. 1																
Total	11,206,494	20.1	4,917,039	8.8	18,225,366	32.7	5,045,018	9.1	16,337,389	29.3	55,731,306	100.0	273,473	771,179	-103,920	56,672,038
Truck	109,819	61.0	41,209	22.9	27,413	15.2	168	0.1	1,433	0.8	180,042	100.0	349			
Railroad fuel 2/	35,496	4.0	18,093	2.0	677,894	75.9	59,516	6.7	102,327	11.4	893,326	100.0	52,205			
Other	11,061,179	20.2	4,857,737	8.9	17,520,059	32.1	4,985,334	9.1	16,233,629	29.7	54,657,938	100.0	220,919			
District 8. Southern No. 2																
Total	31,720,674	28.6	9,010,422	8.1	38,373,231	34.6	25,989,907	23.4	5,972,926	5.3	111,067,160	100.0	412,802	841,102	49,756	112,370,820
Truck	670,392	68.1	90,336	9.2	166,215	16.9	51,148	5.2	6,501	0.6	984,592	100.0	19,578			
Railroad fuel 2/	1,113,716	7.9	173,891	1.2	10,829,422	76.4	1,966,626	13.9	79,311	0.6	14,162,966	100.0	62,026			
Other	29,936,566	31.2	8,746,195	9.1	27,377,594	28.6	23,972,133	25.0	5,887,114	6.1	95,919,602	100.0	331,198			

TABLE 6

PRODUCTION OF BITUMINOUS COAL AND LIGNITE BY CONSOLIDATED SIZE GROUPS DURING THE YEAR ENDED SEPTEMBER 30, 1945, AS REPORTED ON FORMS S.F.A. NOS. 38 AND 56 (continued)

133892

District and Movement	All Lump Coal and All Double Screened Coal with Top Size Over 2" (1)		All Double Screened Coal with Top Size not exceeding 2" (2)		M/R Mod. M/R Dom. M/R Screened and Altered M/R and Minus Resultant with Top Size Over 2" (3)		All Minus Resultant and Dedusted Screenings with Top Size Over 3/4" and not exceeding 2" (4)		All Minus Resultant and Dedusted Screenings with Top Size not exceeding 3/4" (5)		Total Columns 1 through 5 (6)		Size not reported (7)	Coal used at mine 1/ (8)	Net change in inventory (9)	Grand total Columns 6 through 9 (10)
	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent				
District 9. West Kentucky																
Total	4,786,361	28.8	1,050,024	6.3	6,963,565	41.9	3,428,557	20.6	409,577	2.4	16,638,084	100.0	5,217	95,939	2,771	16,742,011
Truck	418,441	75.5	33,049	6.0	49,090	8.8	42,905	7.7	10,826	2.0	554,311	100.0	4,867			
Railroad fuel 2/	1,085,686	15.4	45,882	0.6	5,693,139	81.0	137,592	2.0	71,585	1.0	7,033,884	100.0	-			
Other	3,282,234	36.2	971,093	10.8	1,221,336	13.5	3,248,060	35.9	327,166	3.6	9,049,889	100.0	350			
District 10. Illinois																
Total	22,583,405	31.9	3,732,530	5.2	16,605,503	23.4	24,421,437	34.5	3,511,560	5.0	70,854,435	100.0	86,520	1,119,476	-45,586	72,014,845
Truck	2,991,238	54.0	756,044	13.7	49,162	0.9	1,575,701	28.4	166,626	3.0	5,538,771	100.0	66,457			
Railroad fuel 2/	10,060,469	43.2	359,823	1.6	10,727,650	46.1	2,039,413	8.8	76,538	0.3	23,263,893	100.0	10,028			
Other 3/	9,531,698	22.7	2,616,663	6.2	5,828,691	13.9	20,806,323	49.4	3,268,396	7.8	42,051,771	100.0	10,035			
District 11. Indiana																
Total	10,931,499	43.0	2,175,026	8.6	1,847,992	7.2	9,215,887	36.2	1,280,653	5.0	25,451,057	100.0	145,357	154,230	13,993	25,764,637
Truck	921,291	51.8	194,150	10.9	228,301	12.9	394,803	22.2	39,008	2.2	1,777,553	100.0	33,724			
Railroad fuel	6,934,402	77.9	116,903	1.3	1,537,453	17.2	317,467	3.6	1,309	5/	8,907,534	100.0	12,371			
Other	3,075,806	20.8	1,863,973	12.6	82,238	.6	8,503,617	57.6	1,240,336	8.4	14,765,970	100.0	99,262			
District 12. Iowa																
Total	591,194	37.8	69,522	4.4	42,094	2.7	863,435	55.1	812	5/	1,567,057	100.0	7,483	17,166	- 3,963	1,587,743
Truck	282,881	45.4	56,568	9.1	22,289	3.6	260,474	41.8	812	0.1	623,024	100.0	6,171			
Railroad fuel	173,106	82.8	-	-	-	-	35,918	17.2	-	-	209,024	100.0	-			
Other	135,207	18.4	12,954	1.8	19,805	2.7	567,043	77.1	-	-	735,009	100.0	1,312			
District 13. Southeastern																
Total	1,823,128	10.5	340,433	2.0	6,865,647	39.5	8,295,516	47.7	64,967	0.3	17,389,691	100.0	43,379	183,927	16,061	17,633,058
Truck	185,447	47.4	22,125	5.7	152,118	39.0	16,848	4.3	14,435	3.6	390,973	100.0	40			
Railroad fuel	27,411	0.7	7,582	0.2	3,676,583	97.4	61,508	1.7	-	-	3,773,084	100.0	-			
Other	1,610,270	12.2	310,726	2.3	3,036,946	23.0	8,217,160	62.1	50,532	0.4	13,225,634	100.0	43,339			
District 14. Arkansas and Oklahoma																
Total	1,030,286	55.0	70,565	3.8	488,863	26.0	119,041	6.3	166,128	8.9	1,874,883	100.0	31,023	9,475	- 4,172	1,911,209
Truck	12,062	77.4	1,174	7.6	2,349	15.0	-	-	-	-	15,585	100.0	30			
Railroad fuel	3,492	2.3	1,652	1.1	138,100	93.7	51	5/	4,172	2.9	147,467	100.0	7,339			
Other	1,014,732	59.2	67,739	4.0	348,414	20.4	118,990	7.0	161,956	9.4	1,711,831	100.0	23,654			
District 15. Southwestern																
Total	3,858,202	41.6	650,430	7.0	6/ 1,893,274	20.4	2,881,559	31.0	6,493	5/	9,289,958	100.0	14,811	37,713	- 6,771	9,335,711
Truck	497,038	60.3	50,999	6.1	6/ 131,814	16.0	138,841	16.9	5,354	0.7	824,046	100.0	583			
Railroad fuel	1,038,795	51.7	19,706	1.0	892,267	44.4	58,184	2.9	-	-	2,008,952	100.0	2,617			
Other	2,322,369	36.0	579,725	9.0	6/ 869,193	13.4	2,684,534	41.6	1,139	5/	6,456,960	100.0	11,611			
District 16. Northern Colorado																
Total	861,111	38.3	213,667	9.5	30,991	1.4	974,568	43.4	167,447	7.4	2,247,784	100.0	605	56,965	- 4,716	2,300,638
Truck	366,324	48.9	134,928	18.0	9,559	1.2	212,316	28.3	26,740	3.6	749,867	100.0	518			
Railroad fuel	65,346	68.6	-	-	95	0.1	29,848	31.3	-	-	95,289	100.0	-			
Other	429,441	30.6	78,739	5.6	21,337	1.6	732,404	52.2	140,707	10.0	1,402,628	100.0	87			
District 17. Southern Colorado																
Total	1,876,652	32.2	97,873	1.7	1,737,884	29.9	1,991,864	34.2	120,678	2.0	5,824,951	100.0	17,857	114,289	1,806	5,958,903
Truck	284,210	61.7	11,691	2.6	5,568	1.2	154,022	33.4	5,528	1.1	461,019	100.0	686			
Railroad fuel	63,579	3.2	14,555	0.8	1,551,710	79.2	322,327	16.5	6,090	0.3	1,958,261	100.0	251			
Other 3/	1,528,863	44.9	71,627	2.1	180,606	5.3	1,515,515	44.5	109,060	3.2	3,405,671	100.0	16,920			

TABLE 6

PRODUCTION OF BITUMINOUS COAL AND LIGNITE BY CONSOLIDATED SIZE GROUPS DURING THE YEAR ENDED SEPTEMBER 30, 1945, AS REPORTED ON FORMS S.F.A. NOS. 38 AND 56 (continued)

133892

District and Movement	All Lump Coal and All Double Screened Coal with Top Size Over 2" (1)		All Double Screened Coal with Top Size not exceeding 2" (2)		M/R Mod. M/R Dom. M/R Screened and Altered M/R and Minus Resultant with Top Size Over 2" (3)		All Minus Resultant and Dedusted Screenings with Top Size Over 3/4" and not exceeding 2" (4)		All Minus Resultant and Dedusted Screenings with Top Size not exceeding 3/4" (5)		Total Columns 1 through 5 (6)		Size not reported (7)	Coal used at mines 1/ (3)	Net change in inventory (9)	Grand total Columns 6 through 9 (10)
	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent	Tons	Percent				
District 18. New Mexico																
Total	225,550	62.7	21,880	6.1	7,525	2.1	97,412	27.1	7,352	2.0	359,719	100.0	998	21,847	- 5,947	376,617
Truck	19,407	64.8	3,120	10.4	7,265	24.3	156	0.5	-	-	29,948	100.0	998			
Railroad fuel	124,473	64.5	-	-	-	-	61,766	32.0	6,759	3.5	192,998	100.0	-			
Other	81,670	59.7	18,760	13.7	260	0.2	35,490	26.0	593	0.4	136,773	100.0	-			
District 19. Wyoming																
Total	1,284,837	13.4	150,015	1.6	6,756,407	70.9	1,338,663	14.0	9,665	0.1	9,539,587	100.0	972	137,000	1,787	9,679,346
Truck	75,005	78.9	9,646	10.1	342	0.4	10,060	10.6	-	-	95,053	100.0	55			
Railroad fuel	279,158	3.9	30,303	0.4	6,577,565	90.4	390,164	5.3	-	-	7,277,190	100.0	-			
Other 3/	930,674	43.0	110,066	5.1	178,500	8.2	938,439	43.3	9,665	0.4	2,167,344	100.0	917			
District 20. Utah																
Total	2,137,457	32.3	117,513	1.8	2,403,203	36.4	1,881,980	28.6	57,483	0.9	6,597,636	100.0	768	29,557	1,429	6,629,390
Truck	136,851	77.6	537	0.3	12	5/	39,100	22.1	-	-	176,500	100.0	715			
Railroad fuel	57,392	5.6	19,726	1.9	569,742	55.6	379,286	36.9	275	5/	1,026,421	100.0	-			
Other	1,943,214	36.0	97,250	1.9	1,833,449	34.0	1,463,594	27.1	57,208	1.0	5,394,715	100.0	53			
District 21. North and South Dakota																
Total	859,047	42.8	222,116	11.0	6/ 551,538	27.4	7/ 377,996	18.8	8/	-	2,010,697	100.0	-	119,063	- 175	2,129,585
Truck	45,014	43.3	4,626	4.5	6/ 54,213	52.2	-	-	-	-	103,853	100.0	-			
Railroad fuel	16,280	13.8	1,354	1.1	6/ 92,372	78.1	7/ 8,154	7.0	8/	-	118,160	100.0	-			
Other	797,753	44.6	216,136	12.0	6/ 404,953	22.7	7/ 369,842	20.7	8/	-	1,788,684	100.0	-			
District 22. Montana																
Total	533,134	11.8	186,157	4.1	3,408,012	75.6	275,566	6.1	109,989	2.4	4,512,858	100.0	49	16,567	2,250	4,531,724
Truck	44,644	81.2	6,364	11.6	-	-	3,600	6.6	348	0.6	54,956	100.0	-			
Railroad fuel	20,429	0.6	677	5/	3,374,531	95.8	100,878	2.9	27,040	0.7	3,523,555	100.0	49			
Other	468,061	50.0	179,116	19.2	33,481	3.6	171,088	18.3	82,601	8.9	934,347	100.0	-			
District 23. Washington and Alaska																
Total	244,800	23.6	269,130	25.9	282,623	27.1	152,036	14.6	91,423	8.8	1,040,012	100.0	172,045	25,981	12,437	1,250,475
Truck	142,306	47.0	154,750	51.0	1,104	0.3	3,173	1.0	2,047	0.7	303,380	100.0	-			
Railroad fuel	2,208	0.9	282	0.1	249,276	99.0	55	5/	-	-	251,821	100.0	171,887			
Other 3/	100,286	20.7	114,098	23.6	32,243	6.6	148,808	30.7	89,376	18.4	484,811	100.0	158			
GRAND TOTAL																
Total	118,510,934	21.8	37,798,320	7.0	236,240,088	43.4	107,306,684	19.7	44,220,401	8.1	544,076,427	100.0	2,171,749	5,010,631	- 185,438	551,073,369
Truck	10,504,476	44.0	2,482,756	10.3	5,616,237	23.6	4,556,897	19.1	732,624	3.0	23,892,990	100.0	181,075			
Railroad fuel 2/	25,641,036	21.8	3,309,312	2.8	81,199,229	68.9	6,846,925	5.8	813,003	0.7	117,809,505	100.0	325,383			
Other 3/	82,365,422	20.4	32,006,252	8.0	149,424,622	37.1	95,902,862	23.9	42,674,774	10.6	402,373,932	100.0	1,665,291			

1/ Includes coal used to produce coal, coal used by mine employees, and coal made into briquets or packaged fuel at the reporting mine.
2/ Includes all methods of movement except tidewater and lake.
3/ Includes shipments by truck to byproduct and beehive coke ovens away from the producing mine and for smithing use as follows: District 1, 12,488 tons; District 2, 1,051,429 tons; District 3, 17,653 tons; District 10, 115,703 tons; District 17, 126 tons; District 19, 50 tons; and District 23, 2,772 tons.
4/ In the case of District 3 the tonnages shown in Column 1 represent lump coal and double screened coal with a bottom size larger than 2". The tonnages shown in Column 2 represent lump coal and double screened coal with a bottom size 2" and smaller.
5/ Less than one-tenth of one percent.
6/ Includes some crushed lignite.
7/ Includes all screenings. Breakdown of size of screenings not reported.
8/ Included with "All minus resultant and dedusted screenings with top size over 3/4" and not exceeding 2"."

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

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For Release June 14, 1946.

Mineral Market Report
MMS No. 1412

PHOSPHATE ROCK INDUSTRY OF THE UNITED STATES IN 1945.

General Conditions

Several new records were made in the domestic phosphate rock industry in 1945 according to reports submitted by operators to the Bureau of Mines, United States Department of the Interior. Total mined production reached a new high at 5,399,739 long tons, and the quantity mined in Florida (3,814,935 tons) and the Western States (323,955 tons) were also new records. Phosphate rock sold or used by producers in 1945 also made a new peak of 5,806,723 tons, over four hundred thousand tons greater than in 1944, with a value of $23,951,077, in turn about 3 million dollars above the 1944 value. The marketed production from Florida and also the Western States was also greater than ever before. Sales of Tennessee rock were less. Imports again increased markedly reaching 141,658 long tons. Exports were greater by about 50,000 tons. Apparent domestic consumption reached nearly five and one-half million tons. Stocks at the end of 1945 had decreased about one-third, the decline being chiefly in Florida. The P_2O_5 content of the domestic phosphate rock sold or used in 1945 was at a new high - 1,884,035 long tons.

Outlook

Unsatisfactory conditions still prevail in the world's phosphate rock industry, and appear likely to continue for a considerable time. Rehabilitation of the industry in the former major producing countries in Africa and the Far East has been slow. The situation resulting from the shortage of phosphate supplies due to these delays is aggravated by the threat of famine in many countries. In the United States the production of phosphate rock is still supported by the Government guarantee of 90 percent parity to farmers, together with the demand for export crops and fertilizer for export. The abnormal domestic production and consumption of phosphate rock may be expected to continue pending recovery in other producing areas, the satisfaction of demands from non-producing phosphate-consuming countries, the disappearance of the famine threat, or major financial difficulties.

Prepared by Bertrand L. Johnson and E. M. Tucker, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

Salient statistics of the phosphate-rock industry in the United States, 1944-45

	1944			1945		
	Long tons		Value at Mines	Long tons		Value at Mines
	Rock	P_2O_5 content		Rock	P_2O_5 content	
Production (mined)	5,200,002	1,673,860	(1)	5,399,739	1,737,185	(1)
Sold or used by producers:						
Florida:						
Land pebble.....	3,670,208	1,241,519	$13,136,472	4,103,022	1,382,950	$15,578,980
Soft rock.......	60,087	12,526	259,523	71,715	15,050	293,433
Hard rock.......	22,500	8,056	138,952	63,491	22,613	426,061
Total Florida..	3,752,795	1,262,101	13,534,947	4,238,228	1,420,613	16,298,474
Tennessee 2/ 3/...	1,324,849	381,621	5,975,337	1,294,297	375,370	6,062,688
Idaho.............	112,565	35,804	584,400	123,340	38,984	673,627
Montana...........	186,434	59,963	761,745	150,858	49,068	916,288
Virginia..........	(3)	(3)	(3)	(3)	(3)	(3)
Total United States	5,376,643	1,739,489	20,856,429	5,806,723	1,884,035	23,951,077
Imports 4/..........	123,414	(1)	1,005,132	141,658	(1)	1,112,526
Exports.............	438,133	(1)	5/3,460,916	6/489,566	6/166,090	6/2,774,144
Apparent consumption 7/...	5,061,924	(1)	....	5,458,815	(1)	....
Stocks in producers' hands, Dec. 31:						
Florida...........	815,000	273,000	(1)	388,000	129,000	(1)
Tennessee 2/3/8/..	410,000	115,000	(1)	411,000	113,000	(1)
Western States....	2,000	1,000	(1)	47,000	15,000	(1)
Total stocks....	1,227,000	389,000	(1)	846,000	257,000	(1)

1/ Data not available.
2/ Includes sintered matrix.
3/ Virginia included with Tennessee.
4/ Market value (or price) at port and time of exportation to the United States.
5/ Value at port of exportation.
6/ Quantity and value f.o.b. mines as reported by producers.
7/ Quantity sold or used by producers plus imports minus exports.
8/ Includes brown-rock matrix of sinter grade, sintered brown rock, blue rock, and some matrix of washer grade.

Production

A new high record was made in 1945 in the quantity of phosphate rock mined in the United States with a total of 5,399,739 long tons. The increase was largely due to the much greater quantity mined in Florida, and to a less extent to the increase in the mined production of the Western States. These more than counterbalanced the considerable decline in Tennessee. Phosphate rock was mined in 1945 in Florida, Tennessee, Montana and Idaho, and apatite in Virginia.

Phosphate rock mined in the United States, 1941-45, by States, in long tons

Year	Florida	Tennessee[1]	Western States	United States
1941	3,417,900	[2] 1,301,067	203,216	4,922,183
1942	2,984,503	[2] 1,568,162	266,273	4,818,938
1943	3,274,266	[2] 1,868,407	227,294	5,369,967
1944	3,486,482	1,413,246	300,274	5,200,002
1945	3,814,935	1,260,849	323,955	5,399,739

[1] Includes small quantity of apatite from Virginia.

[2] Includes some matrix of washer grade.

Sales

A new high record in the quantity of domestic phosphate rock sold or used by producers, 5,806,723 long tons, was made in 1945, exceeding the previous maximum, that of 1944, by 430,080 tons. The total value was over 3 million dollars more than that of 1944, owing partly to the increased sales and partly to a higher average value, which rose from $3.88 in 1944 to $4.12 in 1945.

Phosphate rock sold or used by producers in the United States, 1941-45

Year	Long tons	Value at mines		Year	Long tons	Value at mines	
		Total	Average			Total	Average
1941	4,689,652	$15,596,273	$ 3.33	1944	5,376,643	$20,856,429	$ 3.88
1942	4,644,240	16,597,492	3.57	1945	5,806,723	23,951,077	4.12
1943	5.126,232	18,962,021	3.70				

Distribution of Sales

As in 1944, the most popular grades of phosphate rock sold or used by producers in the United States in 1945, according to reports from them, were the 72 and the 75/74-percent B.P.L. grades, although marked increases are to be noted in the 70 and the 68/66-percent B.P.L. grades. Over 72 percent of the domestic phosphate rock sold or used by producers in 1945 was of 70-percent B.P.L. or higher grades. The quantity of phosphate rock containing less than 60-percent B.P.L. sold or used declined in 1945, forming in that year but 9 percent of the total.

Phosphate rock sold or used by producers in the United States, 1944-45, by grades and uses

	1944			1945		
	Quantity		Value	Quantity		Value
	Long tons	Percent of total		Long tons	Percent of total	
Grades--B.P.L.[1] content (percent):						
Below 60	669,228	12	(2)	523,580	9	(2)
60 to 66	210.561	4	(2)	268,253	5	(2)
68 basis, 66 minimum	223,935	4	(2)	447,882	8	(2)
70 minimum	672,218	13	(2)	916,513	16	(2)
72 minimum	1,291,850	24	(2)	1,251,427	21	(2)
75 basis, 74 minimum	1,107,149	21	(2)	1,177,286	20	(2)
77 basis, 76 minimum	883,815	16	(2)	895,814	15	(2)
Above, 85 (apatite) Undistributed[3]	317,887	6	(2)	325,968	6	(2)
	5,376,643	100	$20,856,429	5,806,723	100	$23,951,077
Uses:						
Domestic:						
Superphosphates	3,681,274	69	(2)	3,945,009	68	(2)
Phosphates, phosphoric acid, phosphorus, ferrophosphorus	890,633	17	(2)	816,843	14	(2)
Direct application to soil	256,736	5	(2)	411,543	7	(2)
Fertilizer filler	19,008	(4)	(2)	14,493	(4)	(2)
Stock and poultry feed	55,944	1	(2)	63,525	1	(2)
Undistributed[5]	27,932	(4)	(2)	65,744	1	(2)
Exports[6]	445,116	8	(2)	489,566	9	(2)
	5,376,643	100	20,856,429	5,806,723	100	23,951,077

1 Bone phosphate of lime,

2 Figures not available.

3 Includes numerous grades of B. P. L. content from 65.9 to 85 percent.

4 0.5 percent or less.

5 Includes phosphate rock used in pig-iron blast furnaces, parting compounds, research, defluorinated phosphate fertilizers, refractories, and other uses.

6 As reported to Bureau of Mines by domestic producers.

The quantity of domestic phosphate sold or used by producers in the United States for the production of superphosphates is reported to have been nearly 300,000 tons greater in 1945 than in 1944, although its percentage of the total declined slightly. Increases were also registered in the amounts for direct application to the soil and stock and poultry feed. Less is reported to have gone into the chemical uses in 1945 than in 1944. The quantity used for direct application to the soil is now over 400,000 tons a year and forms 7 percent of total uses.

Consumption

An increase of about 400,000 tons in the apparent domestic consumption of phosphate rock in the United States in 1945 continues, in the first year of peace, the wartime expansion of the domestic demand for that commodity. The present consumption is far above the normal prewar figure.

Prices

Maximum prices of Florida land pebble phosphate rock, Florida hard rock phosphate, and Tennessee brown phosphate rock for sales by miners are covered by Revised Maximum Price Regulation 240 of July 1, 1944, effective July 6, 1944, and the later amendments. No changes were made in unground Florida land pebble or hard rock prices during 1945, but in February 1945, (amendment 1) and again October 1945, (amendment 4) price ceilings for unground Tennessee brown rock phosphate were raised.

Ceiling prices per long ton of Florida and Tennessee unground phosphate rock, f.o.b. cars at mines, by grades, in 1945. 1/

Grades--B. P. L.2/ content (percent)	Prices				
	Florida		Tennessee		
			Brown rock		
	Land pebble	Hard rock	Jan. 1 to Feb. 16	Feb. 17 to Oct. 14	Oct. 15 to Dec. 31
68/66.....................	$2.20	---	$4.50	$4.60	$4.80
70/68.....................	2.60	---	5.00	5.10	5.30
72/70.....................	3.20	$7.10	5.50	5.60	5.80
75/74.....................	4.20	7.85	---	---	---
77/76.....................	5.20	8.60	---	---	---

1/ Office of Price Administration Revised Maximum Price Regulation 240 and amendments.
2/ Bone phosphate of lime.

Sales of Western States phosphate rock are under the General Maximum Price Regulation at individual ceilings. (C. C. Cran, Head Agricultural Chemicals Section, Food Price Division, Office of Price Administration. Letter April 22, 1946.) The Anaconda Copper Mining Company has established ceiling prices for Idaho phosphate rock, basis f.o.b. cars at Conda, Idaho, guaranteed average 32 percent P_2O_5 (about

70 percent B.P.L.) with no adjustment for grade as follows: Sales to superphosphate manufacturers: Mine run bulk $4.75 per net ton; crushed undried bulk $5.00 per net ton; crushed and dried bulk $5.25 per net ton; pulverized bulk $5.90 per net ton. Sales to fertilizer mixers and dealers: pulverized bulk $6.75 per net ton; pulverized, in 100-lb bags $9.25 per net ton. Sales to consumers: pulverized bulk $7.75 per net ton; pulverized in 100-lb bags $10.25 per net ton.

It is reported that the Mountain Copper Company, Ltd., has established the same prices.

The International Minerals and Chemical Corporation has established maximum prices for Montana phosphate rock, basis f.o.b. cars at Drummond or Hall, Montana, as follows:

Sales to fertilizer manufacturers: Mine run undried: - $5.75 per net ton basis 70 percent B.P.L. with 10 cents per unit rise/fall. Milled and dried: 72/70 percent B.P.L.: - $6.50 per net ton basis 72 percent B.P.L. with 10 cents per unit rise to 74 percent max. and fall to 70 percent min.; 75/74 percent B.P.L. - $7.00 per net ton basis 75 percent B.P.L. with 15 cents per unit rise to 76 percent max. and fall to 74 percent min.; 77/76 percent B.P.L. - $7.50 per net ton basis 77 percent B.P.L. with 20 cents per unit rise and fall to 76 percent min.

Review by States

Florida. - A new record for the total quantity of Florida phosphate rock sold or used in any one year - 4,238,228 long tons, 485,433 tons greater than in 1944 - was set in 1945. The total value of this rock, $16,298,474, was nearly three million dollars greater than that of the phosphate rock sold or used in 1944, but was still much below the record value of 1920 ($19,464,362). Increases in the quantities sold or used and the values of all the component types of Florida rock - hard rock, land pebble, and soft rock - were recorded in 1945 over 1944. The total average value per ton and the average values for hard rock and land pebble were higher in 1945 than 1944, but the average value per ton to soft rock, as reported by the producers was less in 1945 than in the preceding year.

Three companies were operating in the hard-rock phosphate field in 1945, although mining was being carried on only at the Section 12 mine, operated jointly by C. & J. Camp, Inc. (P.O. Box 608, Ocala, Florida) and J. Buttgenbach & Co. (P.O. Box 67, Lakeland, Florida), about 3 miles southeast of Dunnellon. The other company, the Dunnellon Phosphate Mining Co. (P.O. Box 157, Savannah, Ga.) did not operate its mine in Citrus County, near Hernando, which it reports is shut down for an indefinite period, but made some shipments from stock for export.

During the fiscal year ended June 30, 1945, the Federal Trade Commission completed its investigation of the Florida Hard Rock Phosphate Export Association, which it had ordered in 1944 under the Webb-Pomerene Law (Export Trade Act), and issued recommendations for the readjustment of the business of the Association.

The investigation of the Phosphate Export Association by the Federal Trade Commission, instituted in Aug. 1944 under the provisions of the Export . Trade Act (Webb-Pomerene Law) was completed early in 1946 and its recommendations to the Phosphate Export Association were released March 12, 1946.

On October 12, 1945, the Phosphate Export Association announced its dissolution on October 11, 1945, and stated that each of the member companies would thereafter conduct its own export business in phosphate rock.

Seven companies were mining and shipping land-pebble phosphate rock in 1945. These were the American Cyanamid Co. (Brewster): American Agricultural Chemical Co. (Pierce): Coronet Phosphate Co. (Plant City): International Minerals & Chemical Corporation (Mulberry): Phosphate Mining Co. (Nichols): Southern Phosphate Co. (Ridgewood): and Swift & Co. Fertilizer Works (Agricola). The Pembroke Chemical Corp. (Pembroke, Florida) did not mine any land pebble in 1945, but did dry material from its wet rock stocks which it exported together with previously dried rock. The Virginia-Carolina Chemical Corporation purchased as of June 1, 1945, practically all of the capital stock of the Phosphate Mining Co. The New York office of the latter company was discontinued, and the head office moved to Richmond, Va., to the executive offices of the new parent corporation.

The entire capital stock of The Ore & Chemical Corporation, of New York (2,000 shares of preferred and 2,000 shares of common), owner of 355 shares of the Pembroke Chemical Corporation or 39.44 percent of the 900 issued and outstanding shares, was vested by the Alien Property Custodian, Metalgesellschaft, A.G., Frankfurt, Germany, having been indicated to have held directly or indirectly a dominant interest, and was sold in 1945 to Mr. B.R. Armour, Englewood, New Jersey. Thirty-five additional shares of the Pembroke Chemical Corporation (3.89 percent of the outstanding capital stock), also vested by the Alien Property Custodian, were sold to the Ore & Chemical Corporation early in 1946.

The Victor Chemical Works, already a large producer of elemental phosphorus in the Tennessee brown-rock phosphate field, has announced an expansion of its elemental phosphorus producing facilities by the proposed erection of a new electric furnace plant on tidewater on Anclote River, near Tarpon Springs, northwest of Tampa, Florida. Phosphate rock from the land-pebble field will be used as the source of the phosphorus.

Florida phosphate rock sold or used by producers, 1941-45, by kinds

Year	Hard rock			Soft rock[1]		
	Long tons	Value at mines		Long tons	Value at mines	
		Total	Average		Total	Average
1941	38,116	$ 211,049	$ 5.54	47,750	$ 132,472	$ 2.77
1942	70,014	396,527	5.66	48,470	155,345	3.20
1943	34,128	201,241	5.90	71,171	254,995	3.58
1944	22,500	138,952	6.18	60,087	259,523	4.32
1945	63,491	426,061	6.71	71,715	293.433	4.09

Year	Land pebble			Total		
	Long tons	Value at mines		Long tons	Value at mines	
		Total	Average		Total	Average
1941	3,279,706	$9,890,510	$ 3.02	3,365,572	$10,234,031	$ 3.04
1942	2,893,756	8,826,705	3.05	3,012,240	9,378,577	3.11
1943	3,483,194	11,633,241	3.34	3.588,493	12,089,477	3.37
1944	3,670,208	13,136,472	3.58	3,752,795	13,534,947	3.61
1945	4,103,022	15,578,980	3.80	4,238,228	16,298,474	3.85

[1] Includes material from waste-pond operations.

Tennessee. - The tonnage of phosphate rock sold or used by Tennessee producers in 1945 (plus a small quantity of apatite from Virginia) was about thirty thousand tons less than in 1944, according to reports from the producing companies. The phosphate rock sold or used was brown rock except for the Virginia apatite, and a small tonnage of Tennessee blue rock. Although the tonnage sold or used decreased in 1945, the total value was greater than in 1944, the average value increasing from $4.51 in 1944 to $4.68 in 1945.

Tennessee brown rock phosphate was mined in 1945 by the Tennessee Valley Authority (Columbia, Tenn.) and by several private companies: Armour Fertilizer Works, (Room 350 Hurt Building, Atlanta, Ga.), Federal Chemical Co. (634 Starks Building, Louisville, Ky.), Harsh Phosphate Co. (Route 4, Murfreesboro Road, Nashville, Tenn.), Hoover & Mason Phosphate Co. (8 South Michigan Ave., Chicago, Ill.), International Minerals & Chemical Corp., (20 North Wacker Drive, Chicago, Ill.), Monsanto Chemical Co., (1700 South Second Street, St. Louis, Mo.), and Virginia-Carolina Chemical Corp. (Richmond, Va.). Sales of blue rock are reported to have been made by George E. Sloan, Columbia, Tenn.

Tennessee phosphate rock (including sintered matrix) sold or used by producers, 1941-45

(Includes apatite from Virginia)

Year	Long tons	Value at mines		Year	Long tons	Value at Mines	
		Total	Average			Total	Average
1941	1,120,358	$4,590,965	$ 4.10	1944 1/	1,324,849	$5,975,337	$ 4.51
1942 1/	1,366,335	6,127,792	4.48	1945 1/	1,294,297	6,062,688	4.68
1943 1/	1,309,059	5,822,249	4.45				

1/ Includes small quantity of blue rock.

Virginia. - In 1945, apatite was produced from the Piney River nelsonite deposit by the Calco Chemical Division of the American Cyanamid Co. The company became a shipper in February 1945, after the superphosphate plant was shut down and dismantled.

Western States. - Phosphate rock mining developments in the Western States are fully covered in a previous Mineral Market Report, MMS No. 1390, released early in 1946.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

JUN 25 1946
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CARBON BLACK PRODUCTION AND SALES REACH NEW PEAKS IN 1945.

Both production and sales of carbon black exceeded one billion pounds for the first time in 1945, according to the Bureau of Mines, U. S. Department of the Interior.

Production increased 31 percent over 1944 to 1,052,798,000 pounds, aided by completion of several new plants. The rate of output, however, was below demand until early summer when smaller demand for military tires eased the situation. In the late months of 1945 production overtook the rate of sales and producers' stocks increased to 102,005,000 pounds on December 31, compared with 69,243,000 pounds at the end of 1944.

The production of contact process blacks, that had declined from 1940 through 1943, gained 30 percent over 1944 to a new record of 538,539,000 pounds. Furnace black output continued its upward trend, increasing 33 percent to 514,259,000 pounds in 1945, or 49 percent of total production, compared with 48 percent in 1944. Texas output of all grades gained 44 percent over 1944 and equaled 69 percent of the U. S. total.

Gas consumed in carbon black manufacture increased 21 percent over 1944 to a new record of 431,830 million cubic feet. The average yield of carbon black was 2.32 pounds per thousand cubic feet of gas in 1945 and 2.20 pounds in 1944. The average value of natural gas used increased to 2.28 cents per thousand cubic feet from 1.62 cents in 1944 and was more than double the average (1.13 cents) of 1941.

Sales to rubber companies increased from 738,029,000 pounds in 1944 to 804,386,000 pounds in 1945 and exports increased 11 percent to 173,773,000 pounds as shipments to Europe expanded after the war. Larger sales to paint manufacturers were offset by smaller takings by the ink and miscellaneous trades.

The average value of carbon black at the plants rose to 4.02 cents a pound in 1945, the highest average since 1929.

There were 58 plants operated in 1945, compared with 54 in 1944. Two plants (1 roller in Kansas and 1 channel in Louisiana) were not operated in 1945. Five new channel plants (2 in New Mexico, 1 in Oklahoma, and 2 in Texas) and one new furnace plant (Texas) began operations.

Tables prepared by H. Backus under the supervision of F. S. LOTT, Assistant Chief, Petroleum Economics Division, Economics and Statistics Branch.

Salient statistics of carbon black produced from natural gas in the U.S., 1944-45.

	1944	1945
Number of producers reporting..................	22	21
Number of plants............................	54	58
Quantity produced:		
By States and districts:		
Louisiana.......................... pounds	160,019,000	168,229,000
Texas:		
Panhandle district..................do..	1/ 401,556,000	1/ 541,464,000
Rest of State........................do..	99,606,000	179,974,000
Total Texas........................do..	501,162,000	721,438,000
Other States(Calif.,Kans.,N.Mex.,Okla.)do..	140,679,000	163,131,000
Total United States.................do..	1/ 801,860,000	1/1,052,798,000
By processes:		
Contact processes......................do..	414,676,000	538,539,000
Furnace processes......................do..	1/ 387,184,000	1/ 514,259,000
Quantity sold:		
Domestic:		
To rubber companies...................do..	738,029,000	804,386,000
To ink companies.......................do..	24,479,000	22,824,000
To paint companies.....................do..	5,315,000	7,421,000
For miscellaneous purposes.............do..	12,616,000	11,631,000
Total..................................do..	780,439,000	846,262,000
Exports....................................do..	156,991,000	173,773,000
Total sales..........................do..	937,430,000	1,020,035,000
Losses.....................................do..	402,000	1,000
Stocks held by producers Dec. 31:		
Contact types........................do..	58,036,000	64,956,000
Furnace types........................do..	11,207,000	37,049,000
Total..............................do..	69,243,000	102,005,000
Value at plants of carbon black produced:		
Total....................................	$29,411,000	$42,323,000
Average per pound.....................cents.	3.67	4.02
Estimated quantity of natural gas used M cu. ft.	355,770,000	431,830,000
Average yield per M. cu. ft. .... pounds.	2.20	2.32
Average value per M. cu. ft. .... cents..	1.62	2.28

1/ Includes carbon black produced from liquid hydrocarbons.

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MINERAL MARKET REPORTS
M.M.S. NO. ~~1296~~ 1414

LEAD AND ZINC PIGMENTS AND ZINC SALTS IN 1945

Shipments of lead and zinc pigments as a group trended downward in 1945, according to the Bureau of Mines, United States Department of the Interior. War requirements for pigments continued large for more than half of the year and civilian needs were inadequately supplied. The downtrend, thus, is not explained by the lack of demand for the products covered by this report but rather by continued shortages, in varying degree, of materials that were inadequate in earlier war years. The outstanding shortages in 1945 were of lead, particularly for the manufacture of white lead, and of linseed oil, although supplies of other drying oils likewise could not fill requirements at all times. Had sufficient quantities of the necessary crude materials, i.e. lead and zinc metal, drying oils and containers and of labor been available, the lead and zinc pigments industry would have accounted for much higher tonnages than it did. The competitive titanium pigments established new records in both production and shipments but continued unable to fill all needs because of plant capacity limitations.

White lead bore the brunt of curtailment in the use of lead in 1945 as lead became one of the most critical commodities from an immediate supply point of view. In examining the other features of the industry, outlined below, it should be borne in mind that many of the trends indicated were owing to factors other than those of supply and demand for the finished products themselves, such as War Production Board limitations on the use of lead in pigments and other restrictions. Shipments of litharge in 1945 were slightly above the previous peak for 1944 and those for zinc sulfate exceeded the previous peak for this commodity in 1941 by 9 percent. Consumption of litharge in the manufacture of storage batteries in 1945 established a new peak level for the third successive year, but the manufacture of black oxide by the storage-battery makers themselves declined from 1944 and the use of red lead for battery purposes likewise was below the peak for 1944 although comparing favorably with other earlier years. Despite the record sales of paints, varnish and lacquer materials in 1945 smaller quantities of most of the pigments covered by this report went into the manufacture of paints. Shipments of zinc oxide were an exception in registering a gain of 12 percent. The use of zinc oxide for chemical warfare purposes assumed importance in 1943, reached a peak of 27,686 tons in 1944 but in 1945 with the completion of the program amounted to only 7 percent of the record tonnage. The agricultural use of litharge declined 30 percent from the record high level established in 1944 but was at a relatively high rate as compared with other earlier years. Consumption of zinc oxide in the manufacture of floor coverings and textiles in 1945 appears to have been at a higher rate than ever before, although the statistical record covers the period 1929-45 only. The manufacture of ceramics has taken reduced quantities of lead and zinc pigments in recent years and took less in 1945 than the somewhat increased quantities in 1944. Zinc oxide consumption in ceramics gained 39 percent over 1944 in contrast to the performance of other pigments covered by this report. Chrome pigments took 38 percent more litharge in 1945 than in 1944 and thus probably established the second-highest annual record for this class. Chrome pigments were governed by the restrictions for chrome rather than by those for lead.

Prepared by Helena M. Meyer and Alethea W. Mitchell, under the supervision of Charles

Lead and zinc pigments and zinc salts shipped 1/ by domestic manufacturers in the United States, 1944-45

	1944			1945		
	Short tons	Value		Short tons	Value	
		Total	Per ton		Total	Per ton
Basic lead sulfate or sublimed lead:						
White	5,253	$765,566	$146	2,235	$318,900	$143
Blue	1,080	147,255	136	1,660	237,890	143
Red lead	53,972	8,840,366	164	47,381	7,963,888	168
Orange mineral	284	70,154	247	230	59,906	260
Litharge	138,203	20,207,218	146	138,798	20,566,670	148
White lead:						
Dry	46,466	7,570,239	163	27,382	4,346,124	159
In oil 1/	39,260	9,000,291	229	23,788	5,552,118	233
Zinc oxide	140,675	19,582,487	139	127,955	17,708,795	138
Leaded zinc oxide	64,395	8,496,579	132	62,598	8,290,073	132
Lithopone	142,905	11,208,891	78	136,161	10,645,316	78
Zinc chloride, 50° Baume	57,545	3,089,837	54	56,230	2,828,474	50
Zinc sulfate	17,156	1,431,487	83	20,854	1,712,058	82

1/ Reported as sold in 1944. 2/ Weight of white lead only.

The distribution of zinc sulfate shipments on a dry basis is available for the first time for 1945.

Shipments of zinc sulfate by uses, 1944-45, in short tons

Industry	1944	1945	
	Gross weight	Gross weight	Dry basis
Rayon	5,954	6,729	2,922
Agriculture	4,974	6,645	3,881
Chemicals	1,459	2,617	1,749
Flotation reagent	1,131	1,232	415
Paints and varnish processing	1,330	589	275
Textile dyeing and printing	-	534	474
Glue	293	260	104
Electrogalvanizing	278	255	161
Other	1,737	1,993	1,205
	17,156	20,854	11,186

Shipments 1/ of lead and zinc pigments, by uses, 1944-45

	1944 Short tons	1945 Short tons
White lead (dry and in oil)		
Paints	79,948	46,418
Ceramics	946	839
Other	4,832	3,913
	85,726	51,170
Red lead		
Storage batteries	30,211	26,725
Paints	18,074	16,438
Ceramics	878	626
Other	4,809	3,592
	53,972	47,381
Orange mineral		
Ink manufacture	56	63
Color pigments	205	151
Other	23	16
	284	230
Litharge		
Storage batteries	3/ 72,342	3/ 79,981
Insecticides	25,957	18,061
Ceramics	12,381	11,511
Chrome pigments	8,233	11,394
Oil refining	5,608	6,419
Rubber	3,023	1,864
Varnish	2,988	2,752
Linoleum	117	115
Other	7,554	6,701
	138,203	138,798
Basic lead sulfate		
Paints	5,496	3,009
Rubber	268	200
Storage batteries	2	-
Other	567	686
	6,333	3,895
Lithopone		
Paint, varnish and lacquers	2/ 108,800	2/ 109,898
Floor coverings and textiles	14,746	15,321
Rubber	726	977
Other	18,633	9,965
	142,905	136,161
Zinc oxide		
Rubber	59,518	63,447
Paints	24,999	28,014
Chemical warfare	27,686	2,053
Floor coverings and textiles	9,563	12,177
Ceramics	3,653	5,086
Other	15,256	17,178
	140,675	127,955
Leaded zinc oxide		
Paints	62,223	58,852
Rubber	119	200
Other	2,053	3,546
	64,395	62,598

1/ Reported as sales in 1944. 2/ Includes a small quantity, not separable, used for printing ink. 3/ In addition 61,000 tons of black or grey oxide in 1944 and 56,000 tons in 1945 were produced by the makers of storage batteries in their own plants.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

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For Release June 18, 1946

MINERAL MARKET REPORT
MMS No. 1415

GEM STONES IN 1945

Domestic Production Continues at Low Level

No branch of mining except for gold has been so adversely affected by war as that of gem stones. According to the Bureau of Mines, United States Department of the Interior production value in 1945 dropped to about $40,000, the lowest in a decade. The decline is attributed to shortages of labor, mining supplies, tires and gasoline. The gem hobbyists and the amateur and semi-professional lapidaries could not replenish their stocks of rough, and their best customers, the touring automobilists almost completely disappeared. Further, the supply of most strategic minerals became adequate early in the year and pegmatite mining waned. It should be stated, however, the pegmatite mining during the war furnished disappointingly few gem stones. Late in the year, gasoline and other supplies became available and this, together with the return of men from the war, will doubtless encourage greater production in 1946.

The lapidaries in Oregon and Washington were active in 1945. There are at least 50 shops, the value of 1945 output being variously estimated at from $100,000 to $500,000.

For the first time, the value of jade produced certainly exceeded that of sapphire and probably that of turquoise. Wyoming in 1945 produced a number of tons of light-green nephrite and almost as much black jade. The publicity the press has given Wyoming jade (all produced from float) has attracted a number of outside prospectors to the state. At Lander there are three professional and a half dozen amateur cutters. The largest boulders yet found were located during 1945.

The Lander region remains the chief producer. Black nephrite, which takes a fine polish, is being obtained from the Red Desert. Discovery of jade in Laramie Range is reported. The white "jade" said to have been found near Kemmerer is, according to reliable information, chalcedony. The so-called jade as found is sold at one to over five dollars a pound. China, when peace is restored, may well become a good market for Wyoming jade.

Prepared by Sidney H. Ball, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division; Economics and Statistics Branch.

Alaska jade appeared on the market in 1945. The locality is on the north side of the Kobuk River. Late in 1945 the Arctic Exploration Company of Fairbanks located mining claims in the district and flew a considerable shipment of jade to Fairbanks. Some of the material is stated to be of gem quality but most of it is fit only for objets d'art. The Chinese have purchased some of it. It is reported that three or four men were engaged last summer in collecting boulders from the bed of the Kobuk River. The better Alaskan material compares favorably with the better New Zealand nephrite. It is suitable for tourist jewelry and objets d'art.

Turquoise is occasionally found at the Castle Dome Copper mine in Arizona. It is "high graded" by the miners and sold in Miami or Globe. Some of it is of fine quality. A company official states: "As in the past, turquoise of an undetermined amount was recovered during routine mining operations. As a whole, the quality of the material recovered at greater depth has improved, both in hardness and in color the latter occurring in the lighter shades of blue."

Turquoise mining was relatively active in Nevada, particularly in the Tonopah and Battle Mountain districts. Most of the material is shipped to New Mexico, although some is cut locally, there being five cutting shops at Battle Mountain. Mr. Alfred L. Ransome states that the lessors, Messrs. Lee Hand and Paul Bare, of the Pedro claim on the Copper Basin property of the Copper Canyon Mining Company, Battle Mountain, produced 3601 pounds of cobbed turquoise in 1945. The Elko County mines appear to have made no shipments in 1945.

In Colorado, the King Mine, now renamed the Lickspittle, was operated in 1945 by Charles King of Manassa, Colorado. Twelve men were employed. The Hall Mine, near Villa Grove, Saguache County, will soon be operated again. There are rumors of a new turquoise deposit in the Cripple Creek district. New Mexico produced no turquoise, although Indians sorted some material from the dumps. Stuart A. Northrop states that the Indian jewelers are using chrysocolla, malachite and chalcedony, largely from Arizona, as substitutes for turquoise. Reports indicate intermittent work on the turquoise deposit near Van Horn, Texas.

The agate deposits on the Priday property in Jefferson County, Oregon, a large producer by hand methods, are to be operated mechanically in the future. The moss agate deposits of the Yellowstone River in Montana, long productive, are said to have produced less than usual in 1945. The easily accessible material is exhausted. Phillip S. Hoyt produced some chalcedony in New Mexico and Arizona which, after staining, is set in costume jewelry. Considerable rose quartz was produced in South Dakota, but most of it which was of poor quality was sold to decorate rock gardens. Some fine rose quartz was found at the Bon Ami workings at Plumbago Mountain, Newry, Maine, according to Stanley I. Perham.

Utah produced less variscite in 1945 than in the recent past. Junius J. Hayes reports that the Clay Canyon deposit (Utah County) produced some 1,000 pounds; that the Amatrice Hill deposit near Grantsville (Tooele County), while not regularly worked, produced about 200 pounds, and that the Lucin deposit (Boxelder County) was probably not worked.

No sapphires were produced during the year in Montana, they, as Dr. Francis A. Thomson explains, having lost their commercial market to the synthetic stones. A little ruby and sapphire was reported to have been produced in Franklin and Clay Counties, North Carolina. Charles E. Hunter reports that Linten B. Greene procured a fine sapphire at the Corundum Hill Mine, Macon County. It is a deep blue tabular crystal one-half inch thick and one inch across. He intends to keep it in his collection as a rough crystal.

Dr. A. M. Butler reports that a considerable amount of "marekanite" (black obsidian nodules in Arizona perlite beds) is being cut cabochon and set in "Indian" silver jewelry. The Superior district south of Queen Creek is the most important locality.

Eldred D. Wilson estimates the production value of precious stones in Arizona from 1900 to 1921 at $300,000, or an average of $13,636 a year. In recent years, production has been much less. Mr. Wilson lists the precious stones found in the state, apparently in order of production as follows: turquoise, silicified wood, oxidized copper minerals (azurite, malachite and chrysocolla), garnet, peridot, Mexican onyx, opal, tourmaline and obsidian; and, of lesser importance, rock crystal, amethyst, chrysoprase, agate, dumortierite and catlinite. Small pyrope garnets and peridot are collected by Navajo Indians, the former from Garnet Ridge and Buell Park in Apache County and the latter from the same localities and from west of San Carlos, Gila County. At the latter locality, peridots of over 233-carats weight have been found. "Deep blue dumortierite resembling lapis lazuli occurs as boulders in gravel along the Colorado River 30 miles north of Yuma."

Mrs. E. H. Roe states that but one Sioux Indian mined catlinite at Pipestone, Minnesota, in 1945, but that a number of returned Indian servicemen expect to dig catlinite and fabricate it.

The states and territories leading in gem production in 1945 were Wyoming, Oregon, Alaska, Nevada, Utah and Arizona.

Other gem stones produced in small quantities in 1945 include agate (Idaho, Wyoming, and Luna and Sierra Counties, New Mexico); amazonite (Amelia, Virginia); amethyst (North Carolina and Mineral Valley, Millard County, Utah): aquamarine (Mitchell, Yancey, Avery, Macon and Ashe Counties, North Carolina); asteriated rose quartz (Newry, Maine); chalcedony (Nevada); citrine (North Carolina); emerald (Mitchell and Yancey Counties, North Carolina); garnet and golden beryl (Mitchell County, North Carolina); jasper (Idaho and near Hot Springs, New Mexico); moonstone (New Mexico and Mitchell County, North Carolina); moss agate (Wyoming); opal (Idaho and Virgin Valley, Nevada); opalized wood (Nevada and New Mexico); rock crystal (Hot Springs district, Arkansas); sapphire (Idaho); green smithsonite (Magdalena, New Mexico), and smoky quartz (North Rumford, Maine).

IMPORTS

The value of imports of precious and semiprecious real and imitation stones as listed by the Department of Commerce, exclusive of industrial diamonds, totaled $114,435,231, 48 percent more than in 1944. The great gains were in polished diamonds and in cut stones of other types both natural and synthetic. The figures of imports follow:

Precious and semiprecious stones (exclusive of industrial diamonds) imported for consumption in the United States, 1944-45

Commodity	1944		1945	
	Carats	Value	Carats	Value
Diamonds:				
Rough or uncut (suitable for cutting into gem stones) duty free	896,547	$43,445,219	893,761	$43,122,622
Cut but unset, suitable for jewelry, duitable	169,097	29,263,121	377,243	64,185,406
Emeralds:				
Rough or uncut, free	1,966	1,668	1,085	252
Cut but not set, duitable	38,666	81,233	106,684	181,834
Pearls and parts, not strung or set, duitable:				
Natural	---	242,221	---	352,947
Cultured or cultivated	---	15,394	---	155,548
Other precious and semiprecious stones:				
Rough or uncut, free	---	105,401	---	134,698
Cut but not set, duitable	---	3,725,453	---	5,113,937
Imitation, except opaque, duitable:				
Not cut or faceted	---	14,550	---	3,220
Cut or faceted:				
Synthetic	---	503,718	---	805,838
Other	---	23,887	---	242,988
Imitation, opaque, including imitation pearls, duitable	---	23,113	---	31,136
Marcasites, dutiable:				
Real	---	84,828	---	101,140
Imitation	---	---	---	3,665
	---	77,529,806	---	114,435,231

DIAMOND

General. - Nineteen forty-five was a highly prosperous year in the diamond industry. The sales of the Diamond Trading Co., the principal seller of rough stones reached £24,500,000,- an all-time peak; presumably, the sales of cut goods also attained a record. Indeed, the United States imports of cut were appreciably above those of the lush twenties. Again consumption greatly exceeded production and the drain on stocks was heavy. Stocks in certain categories of both rough and cut are depleted and in no grade are they large. In consequence, both the gem and industrial diamond trades must look more and more to current production for their diamonds. Additional mines are being equipped, but no great increase in production can be expected for three or four years.

World production was almost fourteen million carats, a fifth greater than that of 1944. Of the total by weight 83 percent were industrials and 17 percent gem grades.

The price of gem rough again advanced, although there has been no increase in the wholesale price of industrials in seven or eight years. Uncut gem diamonds are now quoted at more than twice the prewar price. Cut has never been so high. Since 1939, melee has at least tripled in price and larger cut has more than doubled in price. The price of large stones (10 carats or more) is a matter of negotiation between buyer and seller. Fine cut, in the United States at least, was in short supply much of the year.

Industrials, once a drug on the market, now represent about 20 percent, in dollar value, of the world's rough sales. Yearly the distinction between gem grades and industrials is more sharply defined.

With the war's end, investment in diamonds has not ceased. The people of much of the world have more confidence in the diamond than in their own countries' currency.

Imports

Imports of gem diamonds into the United States have increased from $26,186,948 in 1942 to $107,308,028 in 1945, a gain of almost 310 percent. The figures for rough are almost identical; those for cut show an increase, respectively, of 123 percent by weight and 119 percent by value. The grade of the imports was somewhat poorer in 1945 than in 1944.

Cutting

Due largely to the revival of part of the Belgian cutting industry, the number of artisans employed jumped from 14,000 at the end of 1944 to 25,000 at the end of 1945. The amount of rough gem material has not been increased proportionately and, because of shorages of rough, there will presumably be considerable unemployment in the trade in 1946. The best cutting of large stones today is done in the United States, and the finest small cut in the United States, Palestine and Belgium. The Belgium industry has made a remarkable comeback and at the year-end had 10,000 operatives. The other principal cutting centers are New York City, Palestine, Brazil and Holland.

World Production

Owing to the war, accurate diamond production statistics are not available, but the estimates in the following table are believed to be fairly reliable. World production (gems and industrials) in 1945 is estimated to have been 14,257,500 carats (3.129 short tons), worth about $64,750,000. The quantity was about 21 percent greater and the value 35 percent greater than in 1944. Of the total, cuttables made up about 18 percent of the total, a less proportion than last year because of the large production of crushing bort by BCK, a Belgian Congo producer. By weight, some 5,125 pounds were industrials and 1,130 pounds gem stones.

The Belgian Congo was the leading producer by weight (73.2 percent), although it represented but 13 percent of the value. On the other hand, the British Empite, while accounting for but 19.2 percent of the weight, represented 71 percent of the value.

Compared with 1944, the Belgian Congo increased its production, by weight, 38 percent. Tanganyika Territory continued its gain in output and, in consequence, DeBeers sent engineers to look over the field. DeBeers operated its Dutoitspan and Bulfontein pipe mines and is beginning to reopen Premier and New Jagersfontein, although it will be several years before these are producing. The South African alluvial production increased. The Venezuelan production continued to decrease, and that of Brazil probably was less than in 1944.

The following table shows as accurately as available statistics permit world production for the past five years.

World Production of Diamonds, 1941-45, by countries, in metric carats
(including industrial diamonds)

Country	1941	1942	1943	1944	1945
Africa:					
Angola	786,980	791,850	794,990	800,000	786,000
Belgian Congo	5,866,000	6,018,236	4,881,000	7,540,000	10,386,000
French Equatorial Africa	1/30,000	1/20,000	1/20,000	1/5,000	1/5,000
French West Africa	57,726	1,500	1/35,000	1/60,000	1/60,000
Gold Coast	1/1,000,000	1/1,000,000	1/1,000,000	1/1,000,000	1/500,000
Sierra Leone	1/850,000	1/850,000	1/850,000	1/700,000	1/800,000
South-West Africa	46,578	56,420	1/88,000	154,000	156,000
Tanganyika	29,046	41,000	52,998	90,667	115,666
Union of South Africa					
Mines	--	--	175,885	639,000	878,713
Alluvial	158,422	118,821	126,444	270,000	262,527
Total	158,422	118,821	302,329	909,000	1,141,240
Brazil	1/325,000	1/300,000	1/275,000	1/370,000	1/275,000
British Guiana	26,427	22,208	18,272	13,911	17,251
Other Countries2/	34,350	40,836	29,650	34,000	15,000
Grand Total	9,210,529	9,260,871	8,347,239	11,676,586	14,257,157

1/ Estimated

2/ 1945 Includes Venezuela (12,769 carats); Borneo, India, New South Wales, U.S.S.R.

RUBY, SAPPHIRE AND EMERALD

Fine rubies come from Burma; gem sapphires from Thailand, Indo-China, Kashmir and Ceylon, and emeralds from Colombia and the Urals in Russia. In the first half of 1945, the United States imported from Russia 1,682 carats of cut emeralds valued at some $31,000 or roughly $18.50 a carat. The price suggests that the quality was poor. Today some of these deposits are shut down; Indo-China and Kashmir are practically exhausted, or at least it is so reported; the Colombian emerald deposits are dormant, and during World War II the Celonese gem miners were recruited to mine graphite. Furthermore, the colonial laws made the marketing of gems complicated, if not almost impossible. Shipments from Ceylon to America are inferior to pre-war shipments. The Ceylonese have more money than formerly to buy fine gems, and they have lost their European markets for inferior gems. The native miners of Burma, Thailand and Indo-China in 1945 continued to mine a few gems, although they could scarcely have sold many to the Japanese. Happily, the Burma ruby mines were reoccupied by the United Nations on March 20, 1945, and Thailand and Indo-China later. In consequence of the above circumstances, very few newly mined colored gems are coming on the market, and today we look to jewelers' stocks and old jewelry for our supply.

LESSER GEMS

The opal in America has been used more in fine jewelry in the past year than for several generations and our armed forces, when stationed in Australia, bought many fine gems. Their beauty deservedly warrants revived popularity. During the war few Australian opals were produced and the Mexican production has been small hence the price trend of all grades is upward.

A new gem stone of considerable beauty, brazilianite, was discovered during the year. Zincite from Franklin, N.J., of an attractive deep red color has recently been cut into gems.

The aquamarine remains one of the most popular gem stones, so popular, in fact that blue topaz, which if fine in quality is a superior stone, is appearing on the market as a substitute. Price has moved up markedly, apparently to an unwarranted extent. Brazil is the premier producer, particularly Minas Geraes and to a lesser extent Ceara. Minas Geraes includes the production of aquamarine with tourmaline. In 1936 over 7,235,000 carats of the two gems were produced: since then production has fallen and in 1943 was only 1,469,000 carats. Exports of aquamarine to the United States, however, have increased considerably; in 1943 158,695 carats valued at about $232,000 ($1.46 per carat) and in 1944, 364,285 carats valued at $578,506 ($1.58 per carat). Brazil also produces a much smaller amount of kunzite, a few emeralds, a little topaz, fine garnets, and much rock crystal and citrine.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

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MINERAL MARKET REPORT
M. M. S. No. 1416

JUN 28 1946
UNIVERSITY OF

ZIRCONIUM INDUSTRY IN 1945

Shipments of zircon to consumers in 1945 reached a record high of 16,000 short tons, four-fifths in ceramics (particularly porcelains and refractories) and one-fifth in zirconium ferrosilicon and other alloys, according to the Bureau of Mines, United States Department of the Interior. Domestic production and imports of Australian zircon (zirconium silicate) increased in 1945 compared with 1944, but entries of Brazilian baddeleyite (zirconium dioxide) declined. Half of the Government's stockpile of zircon was released during 1945. The price of zircon was steady until a $5-per ton dip in December.

Domestic production. - Zircon output reached several thousand tons in 1945 compared with several hundred annually in 1940-44 but was still less than the record 3,646 short tons produced in 1927. The principal producer is Humphreys Gold Corp., which began recovery of zircon August 1945 as an accessory of titanium minerals from beach sands near South Jacksonville, Fla., and which is operating the property for its owner, Rutile Mining Co. of Fla. (subsidiary of Titanium Alloy Manufacturing Co.). The only other domestic producer is Riz Mineral Co., which mines black sands near Vero Beach, Indian River County, Fla., and recovers zircon, rutile, and ilmenite in its concentrator at Melbourne, Brevard County, Fla.

Imports. - The United States imported a record 17,144 short tons of zircon (zirconium silicate) in 1945 compared with 11,317 tons in 1944. Virtually the total supply came from Australia. The figures are based on records of the U. S. Department of Commerce but are adjusted by the Bureau of Mines to eliminate the rutile and ilmenite content of "zirconium ore" (mixed zirconium-titanium concentrates) imported from Australia. Imports of Brazilian zirconium concentrates, largely or wholly baddeleyite (zirconium dioxide), were 792 tons in 1945 compared with 2,332 tons in 1944 and 15,283 tons in 1942.

Exports. - Exports comprised 108 short tons of zirconium concentrates, 30 tons of metal and alloys, and 456 tons of zirconium compounds in 1945 compared with 80, 117, and 233 tons, respectively, in 1944, according to the U. S. Department of Commerce.

Prepared by Allan F. Matthews and R. Louise Bryson under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Consumption and uses. - Zircon shipments to consumers reached a record level of 15,988 short tons in 1945 compared with 14,484 tons in 1944. Use distribution in 1945, according to estimates by principal shippers, was as follows, in percentages: Electrical and chemical porcelains, 34; metal and alloys, 17; refractories, 17; pottery glazes and vitreous enamels, 12 each; glass, 7; and miscellaneous, 1. Baddeleyite is consumed primarily in refractories and alloys. A new producer of zirconium-copper alloy and zirconium oxide is Beryllium Corp., Reading, Pa. The Bureau of Mines began production of ductile zirconium metal on a laboratory scale November 1945. A high-intensity pin-point arc has been developed using a zirconium oxide cathode.

Stocks. - Producers' and distributors' stocks of zircon (including zircon content of zirconium-titanium concentrates) were 6,316 short tons at the end of 1945 compared with 4,867 (revised) in 1944. Government-owned Office of Metals Reserve stocks were 2,581 tons of zircon and 15,829 tons of baddeleyite at the end of 1945 compared with 4,840 and 15,848 tons, respectively, at the end of 1944.

Prices. - Zirconium ore, 55 percent ZrO_2, f.o.b. Atlantic seaboard, was quoted nominally at \$65-\$75 a short ton in January to November 1945 and \$60-\$70 in December, according to E&MJ Metal and Mineral Markets. Zirconium ferrosilicon was quoted throughout the year at \$102.50 - \$107.50 a long ton for 12- to 15- percent Zr content and 14-16 cents a pound for 30-40 percent Zr; and powdered zirconium metal at \$7 a pound.

Foreign production. - Most of the world's production of zircon is from Australia, which in 1944 produced 15,680 short tons (contained in zirconium-titanium concentrates) and exported 14,156 tons. Brazil exported 2,372 short tons of zirconium concentrates (almost exclusively baddeleyite) in 1944 compared with 5,424 tons in 1943 and 18,865 tons in 1942. No zircon was produced in India in 1943, but output averaged 1,600 short tons annually in 1933-42. Zircon is mined 40 miles south of Mariupol, Ukrainia, U.S.S.R., for use in vitreous enamels, lamp and tube filaments, and steel. Egypt produced 13 short tons of zircon from sands of the Nile delta in 1944. Senegal, French West Africa, has yielded small tonnages of zircon-ilmenite concentrates.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

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MINERAL MARKET REPORT
MMS No. 1417

BROMINE IN 1945

Sales of bromine compounds by primary producers in 1945 amounted to 79,709,857 pounds of contained bromine, a drop of 22 percent from the all-time high of 102,112,462 pounds produced in 1944, according to the Bureau of Mines, United States Department of the Interior. With the exception of a few percent used in photographic emulsions and laboratory reagents, almost all bromine produced in the United States is added to ethylene to produce ethylene dibromide, an almost indispensable complement required with the gasoline antiknock, tetraethyl lead.

Bromine and bromides sold by primary producers in the United States, 1944-45

	Pounds	Value	Bromine content (pounds)
1944:			
Elemental bromine....................	3,742,307	$766,059	3,742,307
Sodium bromide.......................	1,452,901	273,839	1,133,263
Potassium bromide....................	2,687,604	586,948	1,800,695
Ammonium bromide.....................	438,953	111,910	359,941
Other, including ethylene dibromide...	112,281,833	17,974,063	95,076,256
	120,603,598	19,712,819	102,112,462
1945:			
Elemental bromine....................	2,157,820	379,336	2,157,820
Sodium bromide.......................	1,203,398	242,758	938,650
Potassium bromide....................	3,152,080	626,255	2,111,894
Ammonium bromide.....................	482,749	108,930	395,854
Other, including ethylene dibromide...	87,484,382	13,438,950	74,105,639
	94,480,429	14,796,229	79,709,857

Prepared by Charles L. Harness and F. M. Barsigian, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

Bromine and bromine in compounds sold or used by producers in the United States, 1941-45

Year	Pounds	Value	Year	Pounds	Value
1941	68,317,019	$11,506,213	1944 ...	102,112,462	$19,712,819
1942	65,880,935	13,729,383	1945 ...	79,709,857	14,796,229
1943	94,085,937	19,107,065			

Ethyl-Dow Chemical Co., the largest producer, recovered bromine from sea water at its Wilmington, N. C., and Freeport, Tex., plants. Dow Chemical Co., Midland, Mich., second-largest producer, recovered bromine from Michigan well brines as a byproduct of magnesium and calcium chlorides. American Potash & Chemical Corp., Trona, Calif., recovered bromine from Searles Lake, and Westvaco Chlorine Products Corp., Newark and Chula Vista, Calif., from sea-water bitterns. The following won bromine from well brines: Great Lakes Chemical Corp., Filer City, Mich.; Michigan Chemical Corp., St. Louis, Mich.; Morton Salt Co., Manistee, Mich.; Rademaker Chemical Corp., Eastlake, Mich.; and Westvaco Chlorine Products Corp., South Charleston, W. Va.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

For Release July 2, 1946

MINERAL MARKET REPORT
MMS No. 1418

JUL 12 1946

CALCIUM CHLORIDE IN 1945

Production of natural calcium chloride and calcium-magnesium chloride in 1945 was 218,320 short tons, a substantial gain over 1944, according to the Bureau of Mines, United States Department of the Interior. The increase is attributed to greater demand in the stabilization of rural roads and in concrete mixes.

Calcium chloride and calcium-magnesium chloride from natural brines sold by producers in the United States, 1941-45

[In terms of 75 percent (Ca, Mg) Cl_2]

Year	Short tons	Value	Year	Short tons	Value
1941	165,932	$1,333,370	1944	200,964	$1,621,227
1942	224,527	1,733,169	1945	218,320	1,818,219
1943	199,796	1,549,565			

There were 10 producers in 1945 and 12 in 1944.

The following firms reported production of calcium chloride (and calcium-magnesium chloride) from natural brines in 1945: California Rock Salt Co., 2436 Hunter St., Los Angeles 21, Calif., plant at Amboy, Calif.; J. Q. Dickinson & Co., Malden, W. Va.; Dow Chemical Co., Midland, Mich.; Hill Brothers Chemical Co., 2159 Bay Street, Los Angeles 21, Calif., plant at Amboy, Calif.; Liverpool Salt Co., Hartford, W. Va.; Michigan Chemical Corp., St. Louis, Mich.; National Chloride Co., Amboy Calif.; Rademaker Chemical Corp., Eastlake, Mich,; and Westvaco Chlorine Products Corp., 405 Lexington Avenue, New York 17, N. Y., plants at Chula Vista, Calif., and South Charleston, W. Va.

Prepared by Charles L. Harness and F. M. Barsigian, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

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MINERAL INDUSTRY SURVEYS
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
J. A. Krug, Secretary R. R. Sayers, Director

JUL 17 1946
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FOR RELEASE July 8, 1946

MINERAL MARKET REPORT
M. M. S. No. 1419

PENNSYLVANIA ANTHRACITE 1945 [1]

The production of Pennsylvania anthracite in 1945 totaled 54,933,909 net tons, according to the Bureau of Mines, United States Department of the Interior. The heavy demand for anthracite during the war period continued throughout 1945, and the output was not sufficient to meet the increased requirements created by shortages of other space-heating fuels, the requests from Canada for large tonnages, and the expanded purchasing power of domestic consumers. The sharp decline in production of 14 percent from the output of 63,701,363 tons in 1944 is directly attributable to the scarcity of manpower, difficulty in obtaining equipment and supplies, and labor disturbances which shut down the mines completely for a period of three weeks. Of the total production loss (8,767,454 tons), deep mines accounted for 79 percent, strip pits and culm banks 19 percent, and river coal 2 percent. In accordance with an arrangement made by the operators and the United Mine Workers of America in January 1943, the miners worked six days a week in 1945. The total of 269 days operated by the industry was the highest since 1924 with the exception of the 270 and 292 days worked in 1943 and 1944, respectively.

The anthracite distribution program, inaugurated in 1943 by the Solid Fuels Administration for War, was continued through October 1945, when virtually all regulatory measures were rescinded. The Bureau of Mines worked closely with the Solid Fuels Administration for War in compiling detailed statistical data relating to production, distribution, consumption, utilization, and market requirements of anthracite, and that agency based its entire wartime program for the equitable distribution of hard coal upon these statistics.

From May 3 to June 23, 1945, all anthracite mines were operated under the control of the Federal Government because of unsettled labor conditions occasioned by the absence of a contract between the producers and the United Mine Workers of America to supersede the one which expired on April 30. The mines were closed entirely from May 1 to May 19 and the Bureau of Mines estimates that this stoppage of work resulted in a production loss of 3,500,000 net tons of anthracite. This loss in output added considerably to the scarcity of fuels in the New England and Middle Atlantic States.

According to the Anthracite Committee, production of "bootleg" anthracite totaled 1,026,000 net tons during 1945, compared with 1,333,000 tons in 1944, a decrease of 23 percent. Production from this source has declined rapidly since 1941 when the output reached 6,300,000 tons. The chief contributing factor in the decline has been the loss of the miners to the armed forces, to other industries, and to established mining companies.

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[1] This report contains selected tables showing final statistics of the Pennsylvania anthracite industry for 1945. The complete report with detailed tables to be released shortly as a chapter of Minerals Yearbook 1945, will be distributed to the regular mailing list.

By M. I. Cooke, Anthracite and Coke Section J. A. Corgan, Chief.
Coal Economics Division, Economics and Statistics Branch.

TABLE 1--Statistical trends of Pennsylvania anthracite industry, 1941-45

	1941	1942	1943	1944	1945
Production:					
Loaded at mines for shipment:					
Breakers net tons	46,864,422	51,173,756 1/	50,812,873	53,067,227 1/	45,249,706
Washeries " "	2,538,692	1,957,926 1/	2,401,065	3,492,187 1/	2,551,426
Dredges " "	1,008,983	778,019	821,899	1,081,156	741,319
Sold to local trade and used by employees " "	3,695,125	4,059,403	4,233,732	3,765,641	4,273,864
Used at collieries for power and heat " "	2,261,045	2,358,625	2,374,051	2,295,152	2,117,594
Total production " "	56,368,267	60,327,729	60,643,620	63,701,363	54,933,909
Value at breaker, washery, or dredge	$240,275,000	$271,673,000	$306,816,018	$354,582,884	$323,944,435
Average sales realization per net ton on breaker shipments:					
Domestic:					
Lump and Broken	$5.72	$6.03	$6.77	$7.47	$8.02
Egg	5.84	6.24	6.96	7.56	8.13
Stove	5.93	6.26	6.96	7.57	8.10
Chestnut	5.93	6.28	6.97	7.58	8.12
Pea	4.50	4.85	5.48	6.11	6.62
Total domestic	5.68	6.05	6.76	7.38	7.93
Steam:					
Buckwheat No. 1	3.37	3.46	4.00	4.52	4.79
Buckwheat No. 2 (Rice)	2.52	2.63	3.12	3.59	3.91
Buckwheat No. 3 (Barley)	1.78	1.89	2.25	2.53	2.65
Buckwheat No. 4	1.07	1.17	1.55	1.82	1.85
Other	.87	.83	1.13	1.39	1.58
Total steam	2.55	2.58	3.02	3.42	3.56
Total all sizes	4.59	4.79	5.38	5.91	6.26
Percent by sizes in total breaker shipments:					
Domestic:					
Lump and Broken	0.3	0.3	0.4	0.3	0.3
Egg	4.2	5.2	7.1	7.1	6.5
Stove	24.3	23.6	22.4	21.9	21.7
Chestnut	25.5	24.9	24.5	25.2	25.5
Pea	10.8	9.6	8.7	8.3	7.8
Total domestic	65.1	63.6	63.1	62.8	61.8
Steam:					
Buckwheat No. 1	14.6	14.5	14.2	14.2	14.1
Buckwheat No. 2 (Rice)	8.2	8.0	8.3	8.5	8.1
Buckwheat No. 3 (Barley)	8.9	9.6	9.9	9.7	9.9
Buckwheat No. 4	2.4	3.3	3.0	3.1	3.6
Other	0.8	1.0	1.5	1.7	2.5
Total steam	34.9	36.4	36.9	37.2	38.2
Producers' stocks 2/ net tons	1,274,000	798,000	329,000	445,000	130,000
Exports 3/ " "	3,380,000	4,439,000	4,139,000	4,186,000	3,691,000
Imports 3/ " "	75,000	140,000	166,000	12,000	149
Consumption (calculated) " "	52,700,000	56,500,000	57,100,000	59,400,000	51,600,000
Average number of days worked	203	239	270	292	269
Man-days lost on account of strikes and lock-outs	397,616	279,641	(4)	(4)	(4)
Number of men on strike during year	39,768	26,631	(4)	(4)	(4)
Average number of men employed	88,054	82,121	79,153	77,591	72,842
Output per man per day net tons	3.04	2.95	2.78	2.79	2.79
Output per man per year " "	617	705	751	815	751
Quantity cut by machines " "	1,855,422	2,285,640	1,624,883	1,336,082	1,210,171
Quantity mined by stripping " "	7,316,574	9,070,933	8,989,387	10,953,030	10,056,325
Quantity loaded by machines underground net tons	13,441,987	14,741,459	14,745,793	14,975,146	13,927,955
Distribution:					
Total receipts in New England 5/ net tons	5,551,000	5,974,000	5,722,000	6,222,000	5,081,000
Exports to Canada 3/ " "	3,361,000	4,418,000	4,097,000	4,144,000	3,393,000
Loaded into vessels at Lake Erie 6/ " "	536,000	575,000	661,000	1,066,000	1,234,000
Receipts at Duluth-Superior 7/ " "	253,000	222,000	302,000	580,000	766,000

1/ Small quantity of washery coal included under "Breakers."
2/ Anthracite Committee.
3/ U. S. Department of Commerce.
4/ Data not available.
5/ Commonwealth of Massachusetts, Division on the Necessaries of Life, and Association of American Railroads.
6/ Ore and Coal Exchange, Cleveland, Ohio.
7/ U. S. Engineer Office, Duluth, Minn.

Table 2 --Statistical summary of monthly developments in the Pennsylvania anthracite industry in 1945

[All tonnage figures represent net tons]

	1945														1944 (total)
													Year		
	January	February	March	April	May	June	July	August	September	October	November	December	Total	Change from 1944 (percent)	
Production, including mine fuel, local sales, and dredge coal:															
Monthly total	4,219,000	4,471,000	5,269,000	5,124,000	2,083,000	5,667,000	4,944,000	4,656,000	4,640,000	5,304,000	4,559,000	3,998,000	54,934,000	-13.8	63,701,000
Shipments, breakers, and washeries only, monthly total, all sizes:															
By rail 1/	3,350,803	3,637,392	4,273,143	4,129,144	1,617,604	4,614,465	4,063,464	3,904,545	3,962,979	4,389,751	3,752,349	3,391,078	45,086,717	-15.3	53,215,046
By truck 2/	799,898	803,065	606,448	707,774	305,759	676,993	582,822	608,668	565,641	628,881	543,806	766,354	7,596,109	-1.5	7,712,978
Distribution:															
Lake Erie loadings 3/	---	---	---	158,002	88,271	253,771	142,555	151,223	124,737	157,226	144,081	13,720	1,233,586	+15.7	1,066,389
Lake Ontario loadings 4/	---	---	---	30,057	10,969	52,212	54,768	54,120	55,757	42,875	41,016	---	341,774	-2.3	349,738
Receipts at Duluth-Superior 5/	---	---	---	112,989	48,811	128,267	120,626	95,469	70,101	115,336	73,944	---	765,543	+32.0	579,828
Upper Lake dock trade: 6/															
Receipts:															
Lake Superior	---	214	-x-	111,986	50,489	134,024	122,284	102,457	80,311	121,029	81,715	---	804,509	+52.8	526,374
Lake Michigan	2,720	2,483	5,398	52,258	15,260	79,601	52,134	52,867	44,355	54,908	46,476	9,200	417,660	+14.9	363,572
Deliveries (reloadings):															
Lake Superior	63,326	47,567	27,793	29,594	48,262	50,157	52,437	68,527	79,217	88,795	75,495	69,850	701,020	+54.1	454,994
Lake Michigan	31,414	22,822	28,291	27,287	32,275	34,503	31,838	33,714	30,677	48,988	37,323	39,286	398,418	+16.8	341,230
New England receipts:															
By tide 7/	24,193	21,435	15,773	30,398	10,519	35,794	36,296	29,091	36,863	36,913	27,754	26,248	331,277	-14.2	386,042
By rail 8/	339,595	375,874	467,912	464,821	186,271	450,633	461,463	389,816	392,151	470,693	364,330	386,062	4,749,621	-18.6	5,836,330
Exports 9/	212,866	254,409	329,160	337,751	126,782	322,009	333,766	310,734	335,904	364,903	403,751	359,212	3,691,247	-11.8	4,185,933
Imports 9/	---	---	---	---	---	---	134	---	15	---	---	---	149	-98.7	11,847
Industrial consumption and stocks by:															
Railroads (class 1 only) 7/															
Consumption	109,213	100,548	98,270	87,810	71,765	68,160	68,045	66,216	67,020	80,817	87,510	103,664	1,009,038	-7.7	1,093,651
Stocks	174,777	172,673	171,088	174,491	148,182	155,571	162,541	174,634	174,740	131,618	125,715	113,745	113,745	-41.5	194,534
Electric-power utilities 10/															
Consumption	298,841	278,067	277,367	255,008	245,569	252,698	262,999	253,903	242,503	249,415	237,656	267,627	3,121,653	-8.9	3,427,479
Stocks	1,531,102	1,488,860	1,483,763	1,464,295	1,403,795	1,445,162	1,467,832	1,480,709	1,522,540	1,538,804	1,558,479	1,583,515	1,583,515	-4.3	1,654,132
Other industrial consumers:															
(Selected representative plants)															
Stocks, end of month	1,164,698	1,134,365	1,115,452	775,794	715,021	1,079,710	648,890	1,100,766	797,863	673,297	536,925	672,683	672,683	-22.3	866,169
Consumed during month	401,939	388,230	371,556	264,434	264,366	270,701	175,545	235,508	192,051	201,085	194,468	267,309	(11)	---	(11)
Supply, end of month (days)	90	82	93	86	84	120	115	145	125	104	83	78	78	-6.0	83
Number of firms reporting	754	794	779	757	760	708	649	654	672	614	613	633	633	---	765
Retail dealers:															
(Selected representative plants)															
Stocks, end of month	471,777	461,325	539,225	664,440	486,084	683,039	618,673	599,109	652,104	559,734	554,967	478,095	478,095	-42.0	824,199
Deliveries during month	1,275,774	1,245,508	1,294,969	1,208,781	795,219	1,171,436	1,118,810	1,157,346	1,132,828	1,068,557	860,214	1,123,940	(11)	---	(11)
Supply, end of month (days)	11	10	13	16	19	17	17	16	17	16	19	13	13	-31.6	19
Number of dealers reporting	3,431	3,708	3,554	3,523	3,625	3,560	3,427	3,447	3,426	3,112	3,066	3,143	3,143	---	3,567
Stocks on Upper Lake docks: 6/															
Lake Superior	84,826	43,972	15,123	97,605	99,832	183,686	253,533	287,462	288,556	320,790	327,009	257,158	257,158	+104.9	125,500
Lake Michigan	79,737	59,398	36,429	61,400	44,385	89,483	109,779	128,932	142,610	148,530	157,683	127,597	127,597	+17.7	108,431
Producers stocks 12/	322,217	289,361	285,254	277,427	218,721	179,764	174,033	198,266	203,481	140,209	131,608	130,135	130,135	-70.7	444,508
Sales of mechanical stokers 9/															
Class 1 (capacity under 61 lbs. of coal per hour)	154	208	144	254	165	231	177	316	334	587	389	366	3,325	+638.9	450
Class 2 (capacity 61 to 100 lbs. of coal per hour)	135	137	122	74	175	168	260	207	171	168	148	118	1,883	-16.1	2,243
Prices at mines, average per net ton: 13/															
Group No. 1:															
Company Stove	$7.85	$7.85	$7.85	$7.85	$7.85	$8.25	$8.85	$8.85	$8.85	$8.85	$8.85	$9.00	$8.40	+5.5	$7.96
Company Buckwheat No. 1	$4.65	$4.65	$4.65	$4.65	$4.65	$4.85	$5.15	$5.15	$5.15	$5.15	$5.15	$5.25	$4.93	+3.6	$4.76
Group No. 2:															
Company Stove	$7.85	$7.55	$7.85	$7.85	$7.85	$8.25	$8.85	$8.85	$8.85	$8.85	$8.85	$9.50	$8.44	+6.0	$7.96
Company Buckwheat No. 1	$4.65	$4.65	$4.65	$4.65	$4.65	$4.85	$5.15	$5.15	$5.15	$5.15	$5.15	$5.70	$4.96	+4.2	$4.76
Wholesale prices: 14/															
On tracks destination:															
Chestnut	$11.43	$11.43	$11.43	$11.43	$11.48	$11.76	$12.21	$12.23	$12.28	$12.28	$12.28	$12.39	$11.89	+3.7	$11.47
Pea	$10.04	$10.04	$10.04	$10.05	$10.05	$10.27	$10.66	$10.68	$10.74	$10.74	$10.74	$10.92	$10.41	+3.4	$10.07
Index numbers (1926 = 100)	95.3	95.3	95.3	95.3	95.6	97.5	101.6	101.8	102.2	102.2	102.2	103.4	99.0	+3.6	95.6
Labor conditions: 14/															
Average weekly earnings	$44.81	$48.68	$48.76	$44.92	$38.10	$47.48	$47.47	$49.29	$49.85	$56.45	$47.75	$54.62	$48.98	+2.2	$47.93
Average hourly earnings	$1.154	$1.164	$1.179	$1.153	$1.039	$1.170	$1.219	$1.327	$1.345	$1.368	$1.333	$1.380	$1.252	+6.3	$1.178
Average hours worked per week	38.9	41.7	41.4	38.9	36.4	41.1	39.4	37.1	37.0	41.2	35.8	39.6	39.2	-3.7	40.7
Index of employment (1939 average =100)	79.0	79.2	79.0	77.4	9.7	78.9	77.6	77.4	77.6	78.1	78.2	79.0	72.6	-10.8	81.4
Index of payroll totals (1939 average = 100)	137.7	150.2	149.7	135.1	14.3	145.4	142.7	148.0	149.8	170.8	144.5	167.1	137.9	-8.9	151.4

1/ Furnished by Anthracite Institute.
2/ Pennsylvania Department of Mines.
3/ Ore and Coal Exchange, Cleveland, Ohio.
4/ Buffalo Branch, Ore and Coal Exchange, Cleveland, Ohio.
5/ U. S. Engineer Office, Duluth, Minnesota.
6/ Includes all commercial docks on Lake Superior and west shore of Lake Michigan as far south as Kenosha. Based on data courteously supplied by Maher Coal Bureau and direct reports to the Bureau of Mines.
7/ Association of American Railroads.
8/ Furnished by Commonwealth of Massachusetts, Division on the Necessaries of Life.
9/ Department of Commerce.
10/ Federal Power Commission.
11/ Data not available.
12/ Anthracite Committee. Represents coal in storage closest available date to the end of the month.
13/ Computed from weekly quotations from trade journals. Figures represent circular prices quoted on white ash by leading anthracite-producing companies.
14/ Bureau of Labor Statistics.

TABLE 3--Apparent consumption of anthracite and selected competitive fuels in the principal anthracite markets, 1942-45

(Thousands of net tons)

Fuel	New England	New York	New Jersey	Delaware	Maryland	Pennsylvania	District of Columbia	Total: Thousands of net tons	Total: Percent of total fuels
Anthracite:									
All users: 1/									
1942	5,844	2/ 17,988	2/ 10,395	373	835	15,813	298	51,546	59.2
1943	5,604	2/ 18,555	2/ 9,527	362	873	16,540	320	51,781	61.7
1944	6,004	2/ 17,489	2/ 10,254	380	1,016	17,744	325	53,212	62.3
1945	4,867	2/ 14,488	2/ 8,666	343	868	15,776	270	45,278	(3)
Imports: 4/									
1942	140	1	-----	-----	-----	-----	-----	141	.2
1943	164	2	-----	-----	-----	-----	-----	166	.2
1944	12	-----	-----	-----	-----	-----	-----	12	(5)
1945	-----	-----	-----	-----	-----	-----	-----	(6)	(3)
Briquets:									
Domestic use:									
1942	54	26	1	(6)	4	22	(6)	107	.1
1943	53	31	2	(6)	4	27	1	118	.1
1944	76	48	12	3	7	45	1	192	.2
1945	83	67	16	3	10	52	2	233	(3)
Imports: 4/									
1942	-----	-----	-----	-----	-----	-----	-----	-----	-----
1943	-----	-----	-----	-----	-----	-----	-----	(6)	-----
1944	-----	-----	-----	-----	-----	-----	-----	(6)	-----
1945	-----	-----	-----	-----	-----	-----	-----	(6)	(3)
Coke:									
Domestic use:									
1942	1,252	1,064	408	2	13	428	2	3,169	3.6
1943	1,265	969	329	3	1	321	(6)	2,888	3.4
1944	1,352	1,232	464	7	4	386	1	3,446	4.1
1945	1,371	1,375	552	5	2	334	2	3,641	(3)
Imports: 4/									
1942	-----	56	-----	-----	-----	-----	-----	56	.1
1943	1	52	-----	-----	-----	-----	-----	53	.1
1944	(6)	23	-----	-----	-----	-----	-----	23	(5)
1945	1	19	-----	-----	-----	-----	-----	20	(3)
Oil: Heating and range: 7/									
1942	11,875	10,659	4,890	158	1,061	2,817	651	32,111	36.8
1943	10,367	9,795	4,490	144	970	2,620	552	28,938	34.5
1944	10,411	9,554	4,442	140	988	2,496	526	28,557	33.4
1945	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Total fuel: 8/									
1942	19,165	29,794	15,694	533	1,913	19,080	951	87,130	100.0
1943	17,454	29,404	14,348	509	1,848	19,508	873	83,944	100.0
1944	17,855	28,346	15,172	530	2,015	20,671	853	85,442	100.0
1945	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)

1/ Pennsylvania Department of Mines; illicit coal not included.
2/ An important but undetermined part of anthracite shown as shipped to New Jersey is reshipped to New York City.
3/ Data not yet available.
4/ U. S. Department of Commerce.
5/ Less than 0.1 percent.
6/ Less than 1,000 tons.
7/ Converted to coal equivalent upon basis of 4 barrels of fuel oil equaling 1 ton of coal.
8/ Excludes bituminous coal.

Table 4 --Truck shipments of Pennsylvania anthracite by months in 1945, by States of destination, in net tons 1/

Destination	January	February	March	April	May	June	July
Pennsylvania:							
Within region	499,612	472,390	346,810	404,933	162,891	346,012	281,189
Outside region	170,367	195,332	140,552	168,664	85,173	181,832	161,268
New York	52,598	52,054	44,286	48,588	27,119	72,266	68,953
New Jersey	61,440	67,166	64,947	71,395	24,570	61,449	58,572
Delaware	5,733	6,112	5,030	2,432	1,569	2,118	2,775
Maryland	8,397	8,481	3,707	10,456	3,900	12,000	8,891
District of Columbia	200	---	328	---	15	54	---
Other States	1,551	1,530	788	1,306	522	1,262	1,174
Total: 1945	799,898	803,065	606,448	707,774	305,759	676,993	582,822
1944	676,373	670,672	780,122	604,203	547,505	597,388	522,947

Destination	August	September	October	November	December	Total	Percent of total trucked
Pennsylvania:							
Within region	297,578	294,114	354,025	309,026	440,565	4,209,145	55.4
Outside region	158,891	166,749	168,727	142,258	180,139	1,919,952	25.3
New York	73,818	34,855	40,030	35,904	69,906	620,377	8.2
New Jersey	65,818	57,824	56,118	49,660	63,461	702,420	9.2
Delaware	3,094	7,864	2,967	2,897	3,109	45,700	.6
Maryland	8,135	2,906	5,529	3,029	7,993	83,424	1.1
District of Columbia	---	22	33	---	16	668	(2)
Other States	1,334	1,307	1,452	1,032	1,165	14,423	.2
Total: 1945	608,668	565,641	628,881	543,806	766,354	7,596,109	100.0
1944	626,861	661,313	713,266	667,153	645,175	7,712,978	100.0

1/ Compiled from reports of Pennsylvania Department of Mines.

2/ Less than .01 percent.

TABLE 5 --Shipments of Pennsylvania anthracite, 1943-45, by States of destination in net tons 1/
(Truck shipments excluded)

	1943	1944	1945
New England States	5,603,946	6,003,552	4,867,051
New York	17,812,425	16,821,928	13,867,150
New Jersey	8,632,278	9,465,559	7,963,782
Pennsylvania	10,528,699	11,693,186	9,647,371
Delaware	278,539	317,539	297,056
Maryland	760,497	905,993	784,863
District of Columbia	310,782	323,923	269,278
Virginia	108,764	147,013	128,642
Ohio	125,117	136,781	109,508
Indiana	93,215	85,124	87,123
Illinois	338,196	463,936	529,549
Wisconsin	460,020	392,696	470,501
Minnesota	179,647	146,857	108,210
Michigan	298,873	245,751	239,031
Other States	81,650	64,325	72,573
Total United States	45,612,648	47,214,163	39,441,686
Canada	3,600,508	3,675,870	3,059,062
Other foreign countries	15,711	5,118	16,079
Grand total	49,228,867	50,895,151	42,516,829

1/ Department of Mines, Harrisburg, Pa.

OUTLOOK

The outlook for the Pennsylvania anthracite industry in 1946 is encouraging. It is expected that production will be close to the demand and that the markets will absorb the available supply. Subsequent to 1946, competition between anthracite, heating oils, natural and manufactured gas, coke, and bituminous coal will be extremely keen and the relative position of the industry will depend largely on its ability to develop low-cost, automatic coal-burning equipment, to find new uses for anthracite, and to reduce mining costs. Low-cost, automatic coal burning equipment is not only a means of obtaining new business but installations of both burners and auxiliary equipment will aid in retaining old customers. Concentrated marketing and merchandising programs should be continued and the industry must work closely with architects, builders, and manufacturers of anthracite heating equipment in order to insure itself of a fair share of the fuel business created by the millions of new homes which it is expected will be built during the next ten years.

RESEARCH

For the past six years the Anthracite Institute has sponsored research on new and improved uses for anthracite at the Pennsylvania State College under an agreement whereby the Institute provides a portion of the funds and the Commonwealth of Pennsylvania the remainder. The program, selected by an appointed committee, currently includes the gasification of anthracite by the use of both Broken and Egg sizes in the heavy oil and gas oil processes; the use of Rice and Barley in the new Wellman-Galusha Agitator Producer; and the production of synthesis gas from anthracite by direct gasification with oxygen and steam. A report on the preparation of activated carbon, based upon studies previously completed, was released recently for publication. This study showed that a number of anthracites could be treated to give reasonably good active carbons which may have industrial application for such uses as water and gas purification. Studies on the utilization of anthracite silt have been conducted along several lines including the following: a critical examination of several recent developments in fine coal cleaning, such as the Humphrey's Spiral Concentrator, the Elmore Vacuum Flotation process, and the Johnson Electrostatic process; de-watering and drainage studies on various fine sizes; the use of pulverized anthracite-bituminous mixtures in firing cement kilns; the use of anthracite fines in byproduct coke manufacture and the production of Anthra-coke; and studies on the surface and inherent properties of anthracite as related to the agglomeration of anthrafines by carbonization with various binders.

Anthracite Industries, Inc., (now Anthracite Institute) continued its enlarged scope of research activities, announcing improvements in the "Anthratube," a device for utilizing an entirely new method of burning anthracite. The "Anthratube" principle of combustion is to burn anthracite under forced draft at a high rate of combustion in a steel tube surrounded by a water jacket from which hot water circulates to the radiators in the building to be heated. The "Anthratube" was released by Anthracite Institute early in 1946 to heating equipment manufacturers for production.

The Bureau of Mines continued investigative work in the anthracite fields, started in 1944, on increasing the underground output per man per day through new and improved methods of mechanical mining. The Bureau has done considerable research on various kinds of mechanical mining machinery which is not being utilized at present in the anthracite fields. Concurrently with the mechanical mining program, investigations are being made on the control of mine water and flood prevention. For many years a number of companies have carried on this work independently; however, in order for it to be generally successful, the Federal Government, the Commonwealth of Pennsylvania, and the producers must work together since the costs of the projects, the benefits derived, and the conservation of coal reserves concern all.

PRODUCTION

The production statistics in this report include deep-mined and strip-pit production, coal recovered from the culm banks, anthracite purchased by the industry from "bootleggers" (260,342 tons in 1945), and river or creek coal recovered by dredging operations from the streams draining the anthracite fields. Also included is a small tonnage of semianthracite (181,315 tons in 1945) produced in Sullivan County.

TABLE 6 --Estimated weekly production of Pennsylvania anthracite in 1945

Week ended -	Net tons	Week ended -	Net tons	Week ended -	Net tons
Jan. 6	784,000	May 19	45,000	Sept. 29	1,237,000
13	1,115,000	26	1,230,000	Oct. 6	1,162,000
20	999,000	June 2	1,111,000	13	1,208,000
27	956,000	9	1,272,000	20	1,237,000
Feb. 3	842,000	16	1,290,000	27	1,258,000
10	1,120,000	23	1,359,000	Nov. 3	854,000
17	1,146,000	30	1,336,000	10	1,179,000
24	1,142,000	July 7	913,000	17	1,047,000
Mar. 3	1,122,000	14	1,262,000	24	954,000
10	1,113,000	21	1,159,000	Dec. 1	1,138,000
17	1,221,000	28	1,196,000	8	1,021,000
24	1,210,000	Aug. 4	1,213,000	15	1,088,000
31	1,189,000	11	1,184,000	22	933,000
Apr. 7	1,042,000	18	498,000	29	642,000
14	1,253,000	25	1,168,000	31	1/ 140,000
21	1,295,000	Sept. 1	1,204,000		
28	1,316,000	8	913,000	Calendar year	54,934,000
May 5	279,000	15	1,144,000		
12	46,000	22	1,149,000		

1/ Figures represent output of working days in that part of week included in calendar year 1945. Preliminary production for week of January 5, 1946, was 737,000 tons.

TABLE 7 --Pennsylvania anthracite produced in 1945, by counties

County	Total shipments		Sold to local trade		Used for power		Total production	
	Net tons	Value 1/	Net tons	Value	Net tons	Value	Net tons	Value 1/
Berks, Lancaster, Lebanon, Northampton, and Snyder 2/	29,828	$53,063	189,530	$288,263	23	$35	219,381	$341,361
Carbon	3,660,846	20,835,066	209,369	1,504,289	91,986	261,148	3,962,201	22,600,503
Columbia	890,244	5,857,403	68,821	371,638	54,642	103,398	1,013,707	6,332,439
Dauphin	368,549	1,277,127	233,395	427,981	2,012	4,829	603,956	1,709,937
Lackawanna	6,181,663	38,935,028	1,059,713	7,076,596	385,358	854,472	7,626,734	46,866,096
Luzerne	17,636,647	118,185,649	1,641,506	10,409,670	1,284,554	2,404,448	20,562,707	130,999,767
Northumberland	4,684,731	25,430,956	261,035	1,626,859	29,747	56,229	4,975,513	27,114,044
Schuylkill	14,833,009	82,141,680	569,167	3,689,225	254,072	653,971	15,656,248	86,484,876
Sullivan	140,922	783,693	39,793	234,799	600	1,750	181,315	1,020,242
Susquehanna and Wayne	116,012	422,219	1,535	10,039	14,600	42,912	132,147	475,170
Total	48,542,451	293,921,884	4,273,864	25,639,359	2,117,594	4,383,192	54,933,909	323,944,435

1/ Value given for shipments is value at which coal left possession of producing company and does not include margins of separately incorporated sales companies.

2/ Counties producing dredge coal only.

TABLE 8 --Pennsylvania anthracite shipped in 1945, by regions and sizes

Size	Breaker shipments 1/						Washery shipments		Dredge shipments	Grand total
					Total					
	Lehigh region	Schuylkill region	Wyoming region	Sullivan County	Excluding Sullivan County	Including Sullivan County	Excluding Sullivan County	Including Sullivan County		
Net tons										
Lump 2/ and Broken	58,898	21,007	33,576	-----	113,481	113,481	-----	-----	-----	113,481
Egg	535,621	962,470	1,446,655	-----	2,944,746	2,944,746	-----	-----	-----	2,944,746
Stove	1,795,930	2,617,399	5,393,567	27,664	9,806,896	9,834,560	169,434	169,434	-----	10,003,994
Chestnut	2,065,221	3,544,208	5,905,322	30,995	11,514,751	11,545,746	329,484	346,882	-----	11,892,628
Pea	833,152	1,442,188	1,222,836	13,826	3,498,176	3,512,002	137,182	143,323	(3)	3,655,325
Total domestic	5,288,822	8,587,272	14,001,956	72,485	27,878,050	27,950,535	636,100	659,639	-----	28,610,174
Buckwheat No. 1	1,266,684	2,508,111	2,597,998	14,178	6,372,793	6,386,971	275,828	282,384	3/ 11,816	6,681,171
Buckwheat No. 2 (Rice)	863,565	1,552,535	1,256,923	2,530	3,673,023	3,675,553	243,515	245,130	28,306	3,948,989
Buckwheat No. 3 (Barley)	920,284	2,327,347	1,252,231	-----	4,499,862	4,499,862	484,558	484,558	236,655	5,221,075
Buckwheat No. 4	327,882	1,049,942	265,013	-----	1,642,837	1,642,837	312,152	312,152	327,186	2,282,175
Other (including silt)	663,540	243,983	166,406	20,019	1,073,929	1,093,948	567,563	567,563	137,356	1,798,867
Total steam	4,041,955	7,681,918	5,538,571	36,727	17,262,444	17,299,171	1,883,616	1,891,787	741,319	19,932,277
Grand total	9,330,777	16,269,190	19,540,527	109,212	45,140,494	45,249,706	2,519,716	2,551,426	741,319	48,542,451
Value										
Lump 2/ and Broken	$470,130	$171,649	$268,738	-----	$910,517	$910,517	-----	-----	-----	$910,517
Egg	4,337,850	7,870,455	11,735,796	-----	23,944,101	23,944,101	-----	-----	-----	23,944,101
Stove	14,570,850	21,409,157	43,513,157	$204,940	79,493,164	79,698,104	$1,299,829	$1,299,829	-----	80,997,933
Chestnut	16,708,718	29,061,874	47,751,243	233,331	93,521,835	93,755,166	2,554,208	2,652,547	-----	96,407,713
Pea	5,463,945	9,608,814	8,071,347	88,518	23,144,106	23,232,624	856,617	885,327	(3)	24,117,951
Total domestic	41,551,493	68,121,949	111,340,281	526,789	221,013,723	221,540,512	4,710,654	4,837,703	-----	226,378,215
Buckwheat No. 1	6,035,158	12,028,400	12,441,428	57,824	30,504,986	30,562,810	1,211,934	1,230,675	3/ $55,304	31,848,789
Buckwheat No. 2 (Rice)	3,345,719	6,032,658	4,969,960	6,455	14,348,337	14,354,792	834,135	835,528	70,845	15,261,165
Buckwheat No. 3 (Barley)	2,458,549	6,067,476	3,411,108	-----	11,937,133	11,937,133	1,198,902	1,198,902	430,233	13,566,268
Buckwheat No. 4	662,333	1,895,335	481,971	-----	3,039,639	3,039,639	573,336	573,336	444,390	4,057,365
Other (including silt)	1,073,801	361,106	246,574	45,442	1,681,481	1,726,923	929,529	929,529	153,630	2,810,082
Total steam	13,575,560	26,384,975	21,551,041	109,721	61,511,576	61,621,297	4,747,836	4,767,970	1,154,402	67,543,669
Grand total	55,127,053	94,506,924	132,891,322	636,510	282,525,299	283,161,809	9,458,490	9,605,673	1,154,402	293,921,884
Average value per ton										
Lump 2/ and Broken	$7.98	$8.17	$8.00	-----	$8.02	$8.02	-----	-----	-----	$8.02
Egg	8.10	8.18	8.11	-----	8.13	8.13	-----	-----	-----	8.13
Stove	8.11	8.18	8.07	$7.41	8.11	8.10	$7.67	$7.67	-----	8.10
Chestnut	8.09	8.20	8.09	7.53	8.12	8.12	7.75	7.65	-----	8.11
Pea	6.56	6.66	6.60	6.40	6.62	6.62	6.24	6.18	(3)	6.60
Total domestic	7.86	7.93	7.95	7.27	7.93	7.93	7.41	7.33	-----	7.91
Buckwheat No. 1	4.76	4.80	4.79	4.08	4.79	4.79	4.39	4.36	3/ $4.68	4.77
Buckwheat No. 2 (Rice)	3.87	3.89	3.95	2.55	3.91	3.91	3.43	3.41	2.50	3.86
Buckwheat No. 3 (Barley)	2.67	2.61	2.72	-----	2.65	2.65	2.47	2.47	1.82	2.60
Buckwheat No. 4	2.02	1.81	1.82	-----	1.85	1.85	1.84	1.84	1.36	1.78
Other (including silt)	1.62	1.48	1.48	2.27	1.57	1.58	1.64	1.64	1.12	1.56
Total steam	3.36	3.43	3.89	2.99	3.56	3.56	2.52	2.52	1.56	3.39
Grand total	5.91	5.81	6.80	5.83	6.26	6.26	3.75	3.76	1.56	6.05

1/ Figures of shipments from breakers include some culm-bank coal handled in the breakers.
2/ Quantity of Lump included is insignificant.
3/ A small quantity of Pea included in Buckwheat No. 1.

TABLE 9 --Pennsylvania anthracite produced in 1945, classified as fresh-mined, culm-bank, and river coal and as breaker, washery, and dredge product by regions, in net tons

Region and type of plant	From mines			From culm banks	From river dredging	Total
	Underground		Strip pits			
	Mechanically loaded	Hand-loaded				
Lehigh:						
Breakers 1/	692,749	5,545,328	2,145,098	1,756,939	-----	10,140,114
Washeries 1/	-----	-----	12,191	329,925	-----	342,116
Dredges	-----	-----	-----	-----	41,409	41,409
Total Lehigh	692,749	5,545,328	2,157,289	2,086,864	41,409	10,523,639
Schuylkill:						
Breakers	2,343,301	5,363,648	6,132,151	3,483,324	-----	17,322,424
Washeries	-----	6,520	44,264	1,453,583	-----	1,504,367
Dredges	-----	-----	-----	-----	1,163,817	1,163,817
Total Schuylkill	2,343,301	5,370,168	6,176,415	4,936,907	1,163,817	19,990,608
Wyoming:						
Breakers 1/	10,891,905	9,977,114	1,640,888	993,399	-----	23,503,306
Washeries 1/	-----	-----	-----	735,041	-----	735,041
Total Wyoming	10,891,905	9,977,114	1,640,888	1,728,440	-----	24,238,347
Total, excluding Sullivan County:						
Breakers 1/	13,927,955	20,886,090	9,918,137	6,233,662	-----	50,965,844
Washeries 1/	-----	6,520	56,455	2,518,549	-----	2,581,524
Dredges	-----	-----	-----	-----	1,205,226	1,205,226
Total	13,927,955	20,892,610	9,974,592	8,752,211	1,205,226	54,752,594
Sullivan County:						
Breakers	-----	65,134	81,733	2,638	-----	149,505
Washeries	-----	-----	-----	31,810	-----	31,810
Total Sullivan County	-----	65,134	81,733	34,448	-----	181,315
Grand total	13,927,955	20,957,744	10,056,325	8,786,659	1,205,226	54,933,909

1/ A small quantity of washery coal included in breakers.

TABLE 10.—Pennsylvania anthracite produced in 1945, classified as fresh-mined, culm-bank, and river coal and as breaker, washery, and dredge product, by fields.

Field and type of plant	From mines			From culm banks	From river dredging	Total
	Underground		Strip pits			
	Mechanically loaded	Hand-loaded				
Eastern Middle:						
Breakers 1/	692,749	2,614,786	998,834	698,876	-----	5,005,245
Washeries 1/	-----	-----	12,191	329,925	-----	342,116
Total Eastern Middle	692,749	2,614,786	1,011,025	1,028,801	-----	5,347,361
Western Middle:						
Breakers	2,020,655	3,983,351	3,201,318	2,335,200	-----	11,540,524
Washeries	-----	-----	-----	130,789	-----	130,789
Dredges	-----	-----	-----	-----	308,976	308,976
Total Western Middle	2,020,655	3,983,351	3,201,318	2,465,989	308,976	11,980,289
Southern:						
Breakers	322,645	4,310,839	4,077,097	2,206,187	-----	10,916,769
Washeries	-----	6,520	44,264	1,322,794	-----	1,373,578
Dredges	-----	-----	-----	-----	896,250	896,250
Total Southern	322,646	4,317,359	4,121,361	3,528,981	896,250	13,186,597
Northern:						
Breakers 1/	10,891,905	9,977,114	1,640,888	993,399	-----	23,503,306
Washeries 1/	-----	-----	-----	735,041	-----	735,041
Total Northern	10,891,905	9,977,114	1,640,888	1,728,440	-----	24,238,347
Total, excluding Sullivan County:						
Breakers 1/	13,927,955	20,886,090	9,918,137	6,233,662	-----	50,965,844
Washeries 1/	-----	6,520	56,455	2,518,549	-----	2,581,524
Dredges	-----	-----	-----	-----	1,205,226	1,205,226
Total	13,927,955	20,892,610	9,974,592	8,752,211	1,205,226	54,752,594
Sullivan County:						
Breakers	-----	65,134	81,733	2,638	-----	149,505
Washeries	-----	-----	-----	31,810	-----	31,810
Total Sullivan County	-----	65,134	81,733	34,448	-----	181,315
Grand total	13,927,955	20,957,744	10,056,325	8,786,659	1,205,226	54,933,909

1/ A small quantity of washery coal included in breakers.

TABLE 11.--Pennsylvania anthracite shipped, sold locally, and used as colliery fuel in 1945, by regions

Region	Shipments		Local sales		Colliery fuel		Total	
	Net tons	Value 1/	Net tons	Value	Net tons	Value	Net tons	Value 1/
Lehigh:								
Breakers	9,330,777	$55,127,053	517,788	$3,670,917	2/ 291,549	2/ $918,403	2/ 10,140,114	2/ $59,716,373
Washeries	324,603	1,417,332	17,513	110,779	(2)	(2)	2/ 342,116	2/ 1,528,111
Dredges	41,409	70,439	-----	-----	-----	-----	41,409	70,439
Total Lehigh	9,696,789	56,614,824	535,301	3,781,696	291,549	918,403	10,523,639	61,314,923
Schuylkill:								
Breakers	16,269,190	94,506,924	765,845	5,079,299	287,389	610,899	17,322,424	100,197,122
Washeries	1,475,767	6,158,155	18,908	64,607	9,692	25,532	1,504,367	6,248,294
Dredges	699,910	1,083,963	462,334	767,107	1,573	2,639	1,163,817	1,853,709
Total Schuylkill	18,444,867	101,749,042	1,247,087	5,911,013	298,654	639,070	19,990,608	108,299,125
Wyoming:								
Breakers	19,540,527	132,891,322	2/ 2,451,683	2/ 15,711,851	1,511,096	2,777,152	2/ 23,503,306	2/ 151,380,325
Washeries	719,346	1,883,003	(2)	(2)	15,695	46,817	2/ 735,041	2/ 1,929,820
Total Wyoming	20,259,873	134,774,325	2,451,683	15,711,851	1,526,791	2,823,969	24,238,347	153,310,145
Total excluding Sullivan County:								
Breakers	45,140,494	282,525,299	2/ 3,735,316	2/ 24,462,067	2/ 2,090,034	2/ 4,306,454	2/ 50,965,844	2/ 311,293,820
Washeries	2,519,716	9,458,490	2/ 36,421	2/ 175,386	2/ 25,387	2/ 72,349	2/ 2,581,524	2/ 9,706,225
Dredges	741,319	1,154,402	462,334	767,107	1,573	2,639	1,205,226	1,924,148
Total	48,401,529	293,138,191	4,234,071	25,404,560	2,116,994	4,381,442	54,752,594	322,924,193
Sullivan County: 3/								
Breakers	109,212	636,510	39,793	234,799	500	1,600	149,505	872,909
Washeries	31,710	147,183	-----	-----	100	150	31,810	147,333
Total Sullivan County	140,922	783,693	39,793	234,799	600	1,750	181,315	1,020,242
Grand total:								
1945	48,542,451	293,921,884	4,273,864	25,639,359	2,117,594	4,383,192	54,933,909	323,944,435
1944	57,640,570	328,909,170	3,765,641	21,283,433	2,295,152	4,390,281	63,701,363	354,582,884
Change, 1945 --- percent	-15.8	-10.6	+13.5	+20.5	-7.7	-0.2	-13.8	-8.6

1/ Value given for shipments is value at which coal left possession of producing company and does not include margins of separately incorporated sales companies.

2/ A small amount of washery coal included with breaker.

3/ For purposes of historical comparison and statistical convenience, the mines of Sullivan County are grouped with the Pennsylvania anthracite region, although the product is classified as semianthracite according to the American Society for Testing Materials Tentative Standard.

TABLE 12--Average sales realization per net ton on Pennsylvania anthracite shipments from breakers, 1943-45, by regions and sizes

(Value does not include margins of separately incorporated sales companies)

Size	Lehigh region			Schuylkill region			Wyoming region		
	1943	1944	1945	1943	1944	1945	1943	1944	1945
Lump 1/ and Broken-------	$6.78	$7.40	$7.98	$6.83	$7.67	$8.17	$6.69	$7.46	$8.00
Egg------------------------	7.01	7.58	8.10	6.97	7.58	8.18	6.93	7.54	8.11
Stove----------------------	6.99	7.61	8.11	6.99	7.62	8.18	6.95	7.54	8.07
Chestnut-------------------	7.00	7.61	8.09	6.99	7.64	8.20	6.95	7.54	8.09
Pea------------------------	5.48	6.16	6.56	5.48	6.16	6.66	5.48	6.02	6.60
Total domestic----------	6.75	7.37	7.86	6.71	7.37	7.93	6.79	7.39	7.95
Buckwheat No. 1----------	4.00	4.54	4.76	3.96	4.52	4.80	4.04	4.52	4.79
Buckwheat No. 2 (Rice)---	3.13	3.65	3.87	3.05	3.51	3.89	3.21	3.65	3.95
Buckwheat No. 3 (Barley)	2.26	2.55	2.67	2.19	2.45	2.61	2.35	2.65	2.72
Buckwheat No. 4----------	1.69	1.94	2.02	1.50	1.77	1.81	1.61	1.87	1.82
Other----------------------	1.26	1.43	1.62	.92	1.23	1.48	1.00	1.45	1.48
Total steam-------------	2.93	3.29	3.36	2.87	3.27	3.43	3.25	3.71	3.89
Total all sizes---------	5.14	5.62	5.91	4.95	5.50	5.81	5.80	6.35	6.80

Size	Sullivan County			Total					
				Excluding Sullivan County			Including Sullivan County		
Lump 1/ and Broken-------	----	----	----	$6.77	$7.47	$8.02	$6.77	$7.47	$8.02
Egg------------------------	----	----	----	6.96	7.56	8.13	6.96	7.56	8.13
Stove----------------------	$5.63	$6.91	$7.41	6.97	7.58	8.11	6.96	7.57	8.10
Chestnut-------------------	5.51	6.83	7.53	6.97	7.58	8.12	6.97	7.58	8.12
Pea------------------------	4.85	6.00	6.40	5.48	6.11	6.62	5.48	6.11	6.62
Total domestic----------	5.27	6.56	7.27	6.76	7.38	7.93	6.76	7.38	7.93
Buckwheat No. 1----------	3.90	4.01	4.08	4.00	4.52	4.79	4.00	4.52	4.79
Buckwheat No. 2 (Rice)---	----	2.03	2.55	3.12	3.59	3.91	3.12	3.59	3.91
Buckwheat No. 3 (Barley)	----	----	----	2.25	2.53	2.65	2.25	2.53	2.65
Buckwheat No. 4----------	----	2.05	----	1.55	1.82	1.85	1.55	1.82	1.85
Other----------------------	1.89	----	2.27	1.13	1.39	1.57	1.16	1.39	1.58
Total steam-------------	2.37	2.71	2.99	3.02	3.42	3.56	3.02	3.42	3.56
Total all sizes---------	3.98	5.13	5.83	5.38	5.91	6.26	5.38	5.91	6.26

1/ Quantity of Lump included is insignificant.

TABLE 13--Average value per ton of Pennsylvania anthracite shipments, local sales, colliery fuel, and total production, 1944-45, by regions 1/

(Note that values in this table include washery and dredge coal)

	1944				1945			
	Shipments	Local sales	Colliery fuel	Total production	Shipments	Local sales	Colliery fuel	Total production
Lehigh-------------------	$5.56	$6.54	$2.85	$5.51	$5.84	$7.06	$3.15	$5.83
Schuylkill---------------	5.14	4.78	1.99	5.08	5.52	4.74	2.14	5.42
Wyoming------------------	6.28	5.90	1.69	5.99	6.65	6.41	1.85	6.33
Total, excluding Sullivan County-----	5.71	5.65	1.91	5.57	6.06	6.00	2.07	5.90
Sullivan County----------	5.13	5.92	----	5.25	5.56	5.90	2.92	5.63
Grand total------------	5.71	5.65	1.91	5.57	6.05	6.00	2.07	5.90

1/ Value given for shipments is value at which coal left possession of producing company and does not include margins of separately incorporated sales companies.

TABLE 14--Sizes of Pennsylvania anthracite shipped from breakers, 1943-45, by regions, in percent of total

(Note that shipments of dredge and washery coal are not included)

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Size	Percent of total shipments								
	Lehigh region			Schuylkill region			Wyoming region		
	1943	1944	1945	1943	1944	1945	1943	1944	1945
Lump 1/ and Broken	0.7	0.5	0.6	0.5	0.1	0.1	0.2	0.5	0.2
Egg	6.1	6.0	5.8	5.7	6.2	5.9	8.5	8.3	7.4
Stove	19.6	19.2	19.3	17.1	17.0	16.1	27.6	26.9	27.6
Chestnut	22.0	22.1	22.1	21.0	21.8	21.8	28.1	29.1	30.2
Pea	9.5	9.3	8.9	9.7	9.3	8.9	7.6	6.9	6.3
Total domestic	57.9	57.1	56.7	54.0	54.4	52.8	72.0	71.7	71.7
Buckwheat No. 1	14.7	14.3	13.6	15.8	15.4	15.4	12.8	13.3	13.3
Buckwheat No. 2 (Rice)	9.3	9.6	9.2	10.1	10.0	9.5	6.6	6.8	6.4
Buckwheat No. 3 (Barley)	11.4	11.1	9.9	13.5	13.4	14.3	6.6	6.4	6.4
Buckwheat No. 4	2.5	2.5	3.5	5.6	5.7	6.5	1.3	1.3	1.4
Other	4.2	5.4	7.1	1.0	1.1	1.5	0.7	0.5	0.8
Total steam	42.1	42.9	43.3	46.0	45.6	47.2	28.0	28.3	28.3

Size	Sullivan County			Total					
				Excluding Sullivan County			Including Sullivan County		
Lump 1/ and Broken	----	----	----	0.4	0.4	0.3	0.4	0.3	0.3
Egg	----	----	----	7.1	7.1	6.5	7.1	7.1	6.5
Stove	12.4	14.5	25.3	22.4	21.9	21.7	22.4	21.9	21.7
Chestnut	20.6	26.4	28.4	24.5	25.2	25.5	24.5	25.2	25.5
Pea	22.3	22.1	12.7	8.7	8.2	7.8	8.7	8.3	7.8
Total domestic	55.3	63.0	66.4	63.1	62.8	61.8	63.1	62.8	61.8
Buckwheat No. 1	10.8	12.5	13.0	14.2	14.3	14.1	14.2	14.2	14.1
Buckwheat No. 2 (Rice)	----	1.6	2.3	8.3	8.5	8.1	8.3	8.5	8.1
Buckwheat No. 3 (Barley)	----	----	----	9.9	9.7	10.0	9.9	9.7	9.9
Buckwheat No. 4	----	22.9	----	3.0	3.0	3.6	3.0	3.1	3.6
Other	33.9	----	18.3	1.5	1.7	2.4	1.5	1.7	2.5
Total steam	44.7	37.0	33.6	36.9	37.2	38.2	36.9	37.2	38.2

1/ Quantity of Lump included is insignificant.

TABLE 15 --Relative growth of Pennsylvania anthracite mined from strip pits, 1915, 1920, 1925, 1930, and 1942-45

	Net tons mined by stripping	Percent of fresh-mined total that was stripped	Number of men employed	Average number of days worked
1915	1,121,603	(1)	(1)	(1)
1920	2,054,441	2.5	(1)	(1)
1925	1,578,478	2.7	(1)	(1)
1930	2,536,288	3.7	(1)	(1)
1942	9,070,933	16.7	4,526	211
1943	8,989,387	17.4	5,084	229
1944	10,953,030	20.8	5,595	246
1945:				
Lehigh region	2,157,289	25.7	1,152	221
Schuylkill region	6,176,415	44.5	3,333	242
Wyoming region	1,640,888	7.3	798	244
Total, excluding Sullivan County	9,974,592	22.3	5,283	238
Sullivan County	81,733	55.7	31	205
Grand total, 1945	10,056,325	22.4	5,314	238

1/ Data not available.

TABLE 16.--Men employed and days worked at operations producing Pennsylvania anthracite in 1945, by regions 1/

(Includes operations of strip contractors)

Region	Average number of men employed								Average number of days plant operated	Man-days of labor	Average tons per man per day
	Underground			Surface				Grand total			
	Miners and their laborers	Other	Total underground	In strip pits	In preparation plant	Other	Total surface				
Lehigh:											
Breaker	5,503	3,085	8,588	1,147	1,016	2,722	4,885	13,473	255	3,437,431	2.95
Washery 2/	-----	-----	-----	5	93	95	193	193	262	50,614	6.76
Dredge	-----	-----	-----	-----	5	12	17	17	154	2,610	15.87
Total Lehigh	5,503	3,085	8,588	1,152	1,114	2,829	5,095	13,683	255	3,490,655	3.01
Schuylkill:											
Breaker	6,800	4,912	11,712	3,333	1,867	3,892	9,092	20,804	261	5,431,195	3/ 3.14
Washery 2/	-----	-----	-----	-----	116	563	679	679	219	148,736	3/10.11
Dredge	-----	-----	-----	-----	142	253	395	395	239	94,462	12.32
Total Schuylkill	6,800	4,912	11,712	3,333	2,125	4,708	10,166	21,878	259	5,674,393	3.48
Wyoming:											
Breaker	17,822	9,792	27,614	794	2,082	6,370	9,246	36,860	281	10,364,204	2.27
Washery 2/	-----	-----	-----	4	59	155	218	218	226	49,293	14.91
Total Wyoming	17,822	9,792	27,614	798	2,141	6,525	9,464	37,078	281	10,413,497	2.33
Total, excluding Sullivan County:											
Breaker	30,125	17,789	47,914	5,274	4,965	12,984	23,223	71,137	270	19,232,830	2.64
Washery 2/	-----	-----	-----	9	268	813	1,090	1,090	228	248,643	10.38
Dredge	-----	-----	-----	-----	147	265	412	412	236	97,072	12.42
Total	30,125	17,789	47,914	5,283	5,380	14,062	24,725	72,639	270	19,578,545	2.78
Sullivan County	67	19	86	31	69	17	117	203	247	50,097	3.62
Grand total	30,192	17,808	48,000	5,314	5,449	14,079	24,842	72,842	269	19,628,642	2.79

1/ Men employed in "bootleg" operations excluded.
2/ Represents washeries for which both production and employment were separately reported.
3/ Output per man per day calculated on legitimate tonnages only; "bootleg" purchases excluded.

TABLE 17--Power shovels and draglines used in stripping Pennsylvania anthracite in 1944-45, by type of power

Type of power	1944			1945		
	Number of power shovels	Number of draglines	Total	Number of power shovels	Number of draglines	Total
Gasoline-------------	39	24	63	38	21	59
Electric-------------	24	36	60	29	38	67
Diesel---------------	72	178	250	89	202	291
All others-----------	4	---	4	4	---	4
	139	238	377	160	261	421

TABLE 18--Pennsylvania anthracite cut by machines, 1944-45, by regions

Region	1944			1945		
	Cutting machines		Net tons cut by machines	Cutting machines		Net tons cut by machines
	Permissible	All other types		Permissible	All other types	
Lehigh------------------------------	-------	-------	---------	-------	------	---------
Schuylkill--------------------------	-------	-------	---------	-------	------	---------
Wyoming-----------------------------	141	53	1,336,082	189	36	1,210,171
Total, excluding Sullivan County--	141	53	1,336,082	189	36	1,210,171
Sullivan County---------------------	-------	-------	---------	-------	------	---------
Grand total-------------------------	141	53	1,336,082	189	36	1,210,171

TABLE 19--Pennsylvania anthracite loaded mechanically underground, 1941-45

Year	Scrapers 1/		Conveyors and pit-car loaders 2/		Total loaded mechanically	
	Number of units	Net tons loaded	Number of units	Net tons handled	Number of units	Net tons handled
1941------------------------	505	2,673,983	2,432	10,768,004	2,937	13,441,987
1942------------------------	524	2,871,926	2,491	11,869,533	3,015	14,741,459
1943------------------------	515	2,807,289	2,701	11,938,504	3,216	14,745,793
1944------------------------	503	2,881,661	2,807	12,093,485	3,310	14,975,146
1945------------------------	568	2,893,463	3,006	11,034,492	3,574	13,927,955

1/ Includes mobile loaders.
2/ Includes duckbills and other self-loading conveyors.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

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MINERAL MARKET REPORT
MMS No. 1420

MAGNESITE AND OTHER MAGNESIUM COMPOUNDS IN 1945

Mine production of crude magnesite in 1945 was 336,458 short tons, according to the Bureau of Mines, United States Department of the Interior, the lowest since 1940, but still high compared with prewar figures--the 3-year average of 1937-1939, for example, being 166,000 short tons. The main reason for the decline was the closing of the giant Basic Magnesium Inc. flotation plant at Gabbs, Nev., which had provided raw material for much-needed magnesium metal during 1943-1944.

The main use of magnesite is in refractories. Magnesia grain, cement and brick are used in the construction and maintenance of basic open-hearth steel furnaces. Caustic-calcined magnesia (roasted in a rotary kiln at lower temperatures than refractory magnesia) is used in oxychloride-cement flooring, fertilizers, rubber manufacture, and in other ways.

Production and sales data for the domestic magnesite and magnesia industries are given in the following table.

Year	Crude magnesite mined 1/		Caustic-calcined magnesia sales 2/		Refractory magnesia sales 3/	
	Short tons	Value	Short tons	Value	Short tons	Value
1941....	374,799	$2,655,547	30,225	$1,052,077	201,481	$5,052,879
1942....	497,368	3,874,334	41,889	2,028,126	273,661	7,823,963
1943....	754,832	6,071,596	191,792	11,497,505	301,382	9,341,183
1944....	561,450	4,407,461	139,243	6,481,963	278,490	8,426,049
1945....	336,458	2,324,957	43,270	2,503,544	254,994	7,414,218

1/ Partly estimated; most of the crude is processed by the mining companies, and very little enters open market.

2/ 1941: Includes caustic-calcined magnesite and caustic-calcined magnesia from sea-water bitterns; 1942-45: Includes caustic-calcined magnesite and reactive magnesia from sea-water bitterns, well brines, and raw sea water and from precipitated magnesium carbonate obtained from dolomite.

3/ 1941: Includes dead-burned magnesite and refractory magnesia from brucite, dolomite, and sea-water bitterns; 1942-43 and 1945: Includes dead-burned magnesite and refractory magnesia from brucite, dolomite, sea-water bitterns, well brines and raw sea water; 1944: Includes dead-burned magnesite and refractory magnesia from brucite, dolomite, sea-water bitterns, and raw sea water.

Prepared by Charles L. Harness and F. M. Barsigian, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

Magnesia is recovered from a variety of sources, as shown in the following table.

Magnesia sold or used by producers in the United States, 1944-45, by kinds and sources

[Quantities and values reported apply to finished products, not raw materials]

Finished product	From magnesite, brucite, and dolomite		From well brines, raw sea water, and sea-water bitterns	
	Short tons	Value	Short tons	Value
1944				
Caustic-calcined...........	99,063	$4,366,474	40,180	$2,115,489
Refractory................	220,583	5,943,480	57,907	2,482,569
	319,646	10,309,954	98,087	4,598,058
1945				
Caustic-calcined...........	16,098	1,122,119	27,172	1,381,425
Refractory................	193,693	5,068,987	61,301	2,345,231
	209,791	6,191,106	88,473	3,726,656

OTHER MAGNESIUM COMPOUNDS

In addition to magnesite and the calcined magnesias, there are several other important magnesium compounds produced in the United States. During the war, the most important of these was magnesium chloride, which was electrolyzed to yield magnesium metal. Production of this compound fell sharply in 1945. Precipitated magnesium carbonate obtained from dolomite by the Pattinson process, used mostly in 85-percent magnesia insulation (mixed with 15 percent asbestos), showed a slight drop in production. The high quality magnesias used in pharmaceuticals and other high-cost uses, declined greatly owing to curtailed demand in synthetic rubber compounding.

Specified magnesium compounds produced, sold, and used by producers in the United States, 1944-45

Product	Plants	Produced (short tons)	Sold 1/		Used (short tons)
			Short tons	Value	
1944					
Specified magnesias and magnesium hydroxide:					
U.S.P. and technical magnesia, basis 100% MgO:					
Extra-light	(2)	(2)	(2)	(2)	(3)
Heavy, light, and magnesium hydroxide	(2)	(2)	(2)	(2)	(3)
Total	5	4/ 4,694	4,391	$923,695	(3)
Percipitated magnesium carbonate	10	52,918	4,845	448,619	47,917
Magnesium chloride, 100% basis	11	525,223	19,096	5/ 720,926	509,365
Magnesium sulfate, 100% basis	3	25,316	25,565	1,289,448	---
1945					
Specified magnesias and magnesium hydroxide:					
U.S.P. and technical magnesia, basis 100% MgO:					
Extra-light	4	732	805	318,277	---
Heavy, light, and magnesium hydroxide	3	1,479	1,260	421,501	(3)
Total	6/ 5	4/ 2,211	2,065	739,778	(3)
Precipitated magnesium carbonate	11	50,205	8,469	812,791	41,794
Magnesium chloride, 100% basis	5	121,475	(7)	(7)	104,081
Magnesium sulfate, 100% basis	3	27,610	27,142	1,377,311	---

1/ Sales by a producer to an affiliated consumer for immediate use are not included under "Sold" but under "Used." 2/ Included in total, not available separately. 3/ Magnesia and magnesium hydroxide used by producing firms in making other magnesias are not shown. 4/ Exclusive of magnesia made from magnesium hydroxide, to avoid duplication. 5/ Revised figure. 6/ A plant producing more than 1 grade or product is counted but once in arriving at total. 7/ Bureau of Mines not at liberty to publish figures.

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MINERAL MARKET REPORTS
M. M. S. No. 1421.

FINAL ANNUAL FIGURES - PLEASE FILE FOR REFERENCE UNTIL PRINTED REPORT IS AVAILABLE

CHROMITE IN 1945

The supply of chromite from domestic sources (mine shipments) in 1945 declined 69 percent from that in 1944, but imports increased 8 percent, according to the Bureau of Mines, United States Department of the Interior, in a report presenting the final figures for the year.

Salient statistics of chromite in the United States, 1944-45

	1944		1945	
	Short tons	Value	Short tons	Value
New supply:				
Domestic production (shipments)	45,629	$1,668,299	13,973	$532,382
Imports for consumption........	848,390	15,924,992	914,765	17,530,293
	894,019	17,593,291	928,738	18,062,675
Distribution:				
Consumption by industry........	848,449	(1)	808,120	(1)
Exports........................	1,019	43,601	12,366	342,114
Additions to stocks 2/........	44,551	(1)	108,252	(1)
	894,019	17,593,291	928,738	18,062,675

1/ Not available. 2/ Calculated to strike a balance.

Judged by wartime production alone domestic chromite takes on an apparent importance entirely out of proportion to its true position in industry. The actual significance of domestic chromite is revealed by the fact that of the 339,721 short tons of chromite purchased by the Office of Metals Reserve during the war period (1941-45) only 65,270 tons (19 percent) have been absorbed by industry - because of low quality - even under the pressure of drastic shortages and unprecedented consumption. The currently known orebodies cannot be expected to produce significant quantities of readily marketable ore unless and until commercially feasible methods for their beneficiation and utilization are developed. Engineers of the Bureau of Mines have been studying these problems intensively for a number of years.

Prepared by Edwin K. Jenckes and Katharine D. Wildensteiner, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch. Import and export figures compiled by M. B. Price, of the Bureau of Mines, from records of the U. S. Department of Commerce.

The patterns of production during World Wars I and II are compared in the following table.

Chromite shipped from mines in the United States, 1913-20 and 1938-45

Year	Short tons	Year	Short tons
1913.....................	286	1938....................	909
1914.....................	662	1939....................	4,048
1915.....................	3,675	1940....................	2,982
1916.....................	52,680	1941....................	14,259
1917.....................	48,973	1942....................	112,876
1918.....................	92,322	1943....................	160,120
1919.....................	5,688	1944....................	45,629
1920.....................	2,802	1945....................	13,973

Total production of chromite in the United States since 1880 has amounted to 615,042 short tons of which 198,312 tons (32 percent) were mined during World War I, 349,839 tons (57 percent) during World War II, and 66,891 tons (11 percent) in peacetime.

Chromite imported for consumption in the United States, 1941-45, by countries, in short tons

Country	1941	1942	1943	1944	1945
North America:					
Canada.................	393	13,705	17,046	20,296	3,726
Cuba...................	179,944	137,826	310,729	349,059	297,820
Guatemala..............	....	....	2,001	1,016	181
	180,337	151,531	329,776	370,371	301,727
South America: Brazil...	6,005	6,468	9,285	4,278	2,920
Europe:					
Cyprus.................	....	....	8,400	....	....
Greece.................	2,199	....	....	....	....
U. S. S. R.	....	30,061	99,922	112,315	166,142
	2,199	30,061	108,322	112,315	166,142
Asia:					
India and Dependencies	10,910	21,316	2,800	....	....
Philippine Islands....	288,411	30,475	....	....	....
Turkey................	61,845	119,548	90,778	98,777	70,845
	361,166	171,339	93,578	98,777	70,845
Africa:					
British West Africa...	....	....	....	....	6,397
Sierra Leone..........	16,464	....	....	....	....
Southern Rhodesia.....	269,210	277,272	243,508	187,781	221,855
Union of South Africa.	189,703	262,259	111,602	40,376	110,415
	475,377	539,531	355,110	228,157	338,667
Oceania:					
Australia.............	....	....	....	....	73
New Caledonia 1/......	90,208	82,677	32,505	34,492	34,391
	90,208	82,677	32,505	34,492	34,464
	1,115,292	981,607	928,576	848,390	914,765

1/ Listed as French Oceania by U. S. Department of Commerce.

Of the 1945 imports 98 percent were from Cuba, U. S. S. R., Turkey, Southern Rhodesia, Union of South Africa, and New Caledonia. Imports in 1945 were 66,375 short tons greater than in 1944.

Exports of chromite were 12,366 tons of which 12,116 tons went to Canada, 230 tons to Mexico, 18 tons to Cuba and 2 tons to Curacao.

The consumption of chromite remained at a high rate after the ending of hostilities. This high rate is the result of a demand for chromium-containing alloys, particularly for stainless steel and other heat- and corrosion-resisting alloys. The improvement of stainless steels by the addition of Ti and Mo is being thoroughly investigated. Chromium alloys of various types are used in jet propulsion units, gas turbines, and in gas engine superchargers. A new type of stainless steel which is magnetic and possesses hardenability through heat treatment has been developed. Another new type is a steel having the composition 16 percent Cr, 25 percent Ni, and 6 percent Mo adapted to gas turbine use at higher temperatures than are practicable with previously available alloys. Inasmuch as fuel efficiency increases with the operating temperature, fuel savings will result from the development of alloys resistant to elevated temperatures.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

UNIVERSITY OF ILLINOIS

FOR RELEASE JULY 13, 1946

MINERAL MARKET REPORT
MMS. NO. 1422

FELDSPAR IN 1945

Paced by the accelerated demand for glass and glass products, a continued high level of pottery sales and the increasing market for enameled ware, the production of both crude and ground feldspar in 1945 broke all previous records by substantial margins according to reports submitted by producers to the Bureau of Mines, United States Department of the Interior. Tonnages of crude and ground feldspar in 1945 rose 10 and 8 percent respectively above the former peak year for each (1941), while the values of the crude and ground spar sold were 11 and 10 percent respectively higher than in 1944, the former record year in realization for both. Production of "aplite" decreased only slightly from the peak output in 1944. Imports of Canadian crude feldspar were the highest since 1930, and imports of unground nepheline syenite (also from Canada) reached record levels, 20 percent greater than the former peak year 1943.

Salient statistics of the feldspar industry in the United States, 1943-45

	1943	1944	1945	Percent of change in 1945
Crude feldspar:				
Domestic sales:				
Long tons	308,180	327,408	373,054	+14.0
Value	$1,646,277	$1,813,937	$2,021,529	+11.4
Average per long ton	$5.34	$5.54	$5.42	-2.2
Imports:				
Long tons	10,758	11,686	14,924	+27.7
Value	$83,073	$95,956	$114,917	+19.8
Average per long ton	$7.72	$8.21	$7.70	-6.2
Ground feldspar:				
Sales by merchant mills:				
Short tons	335,810	343,201	381,728	+11.2
Value	$3,591,960	$3,863,036	$4,246,961	+10.0
Average per short ton	$10.70	$11.26	$11.13	-1.2
Imports:				
Short tons	41	10	----------	-------
Value	$417	$203	----------	-------
Average per short ton	$10.17	$20.30	----------	-------

Output of crude feldspar in practically all the chief producing States was larger in 1945 than in 1944. Production in North Carolina rose 21 percent in tonnage and 11 percent in value to a new record. Output of crude spar in Virginia

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Prepared by Robert W. Metcalf and A. B. Holleman under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

also rose 21 percent. Colorado and Maine in 1945 had high proportionate gains over 1944. Sales of ground feldspar in North Carolina in 1945 topped output in other individual States for the first time since 1936 and output of North Carolina and Tennessee combined increased in volume by more than one-quarter and in value by over one-fifth compared with 1944. Production of ground feldspar at southern mills and in South Dakota showed large increases in 1945 compared with 1944 in contrast to the decreases (mostly moderate) in New England States and western producing areas other than South Dakota.

Although the overall value of glass products decreased, due probably for the most part to the curtailed output of plate glass in the latter part of the year, most of the other market indicators reflecting activity in the glass trades and other industries consuming sizable quantities of feldspar showed healthy increases. Production and shipments of glass containers, perhaps the largest single market for feldspar, were 6 and 11 percent respectively higher in 1945 than in 1944 and were accompanied by a 14 percent drop in inventories at the end of 1945 compared with the end of 1944. The comparatively small yet significant jump in privately financed residential building in 1945 also is of interest to the feldspar producer as well as the 13 percent increase in the value of sales of procelain enamel products.

DOMESTIC PRODUCTION

Following the usual practice in the industry, crude feldspar is reported in long tons of 2,240 pounds and ground feldspar in short (net) tons of 2,000 pounds.

Crude feldspar. - Production of crude feldspar in 1945 continued at an accelerated pace and topped all previous records in both quantity and value. Total output rose to 373,054 long tons valued at $2,021,529, or 10 percent in tonnage higher than in 1941, the former high year and 11 percent higher in value than the previous highest realization (in 1944). The 1945 output was 14 percent above that for 1944.

Output in practically all the important producing States in 1945 showed at least small increases. The fairly large gains in production over 1944 were not confined to one section of the country, but affected impartially both eastern and western mining areas.

Crude feldspar sold or used by producers in the United States, 1941-45
(Value at mine or nearest shipping point)

Year	Long tons	Value		Year	Long tons	Value	
		Total	Average			Total	Average
1941-------	338,860	$1,519,456	$4.48	1944-------	327,408	$1,813,937	$5.54
1942-------	316,166	1,546,702	4.89	1945-------	373,054	2,021,529	5.42
1943-------	308,180	1,646,277	5.34				

Ground feldspar. - Sales of ground feldspar by merchant mills in 1945 totaled 381,728 short tons valued at $4,246,961 and established records in both tonnage and value. Sales in 1945 were 11 percent higher in quantity than in 1944, and 8 percent higher than the former peak sales of ground spar in 1941. The value of sales in 1945 was 10 percent greater than in the previous high year (1944). In the New England States and in western States other than South Dakota, production of ground feldspar was less in 1945 than in 1944. Output from southern mills showed large gains. North Carolina and Tennessee mills combined supplied 37 percent of the total sales of feldspar ground in the United States in 1945 compared with 32 percent in 1944.

Ground feldspar sold by merchant mills 1/ in the United States, 1941-45

Year	Active mills	Domestic			Canadian			Total	
		Short tons	Value		Short tons	Value		Short tons	Value
			Total	Average		Total	Average		
1941--	29	347,092	$3,646,404	$10.51	7,325	$136,199	$18.59	354,417	$3,782,603
1942--	29	318,209	3,339,462	10.49	9,577	185,507	19.37	327,786	3,524,969
1943--	27	329,354	3,465,885	10.52	6,456	126,075	19.53	335,810	3,591,960
1944--	28	335,491	3,714,039	11.07	7,710	148,997	19.33	343,201	3,863,036
1945--	30	372,377	4,062,077	10.91	9,351	184,884	19.77	381,728	4,246,961

1/ Excludes potters or others who grind for consumption in their own plants.

North Carolina for the first time since 1936 topped all States in the production of ground feldspar in 1945, followed by South Dakota, Tennessee, New Hampshire and Colorado. Output in North Carolina and Tennessee combined rose in 1945 to 142,208 short tons valued at $1,665,634, or 26 percent in tonnage and 21 percent in value greater than in 1944. New Jersey and Connecticut combined showed a 13 percent drop, as did Maine, while output in Colorado decreased 9 percent and that in California 32 percent. Substantial gains in production of ground spar, however, were reported for South Dakota and Virginia and a small increase for New York. In other States, for which figures cannot be given, small to moderate decreases were noted.

CONSUMPTION AND USES

Crude feldspar. - Most crode feldspar is sold to merchant mills, which grind or otherwise process the spar and sell it to the ultimate consumer. However a few pottery and enamel manufacturers and some makers of scouring soap and sweeping compounds mine or purchase crude feldspar and prepare it in their own mills for use in their products.

Ground feldspar. - As in 1944, sales of ground feldspar to ceramic industries in 1945 were 98 percent of total shipments. By far the most of the ground spar consumed is sold to glass and pottery manufacturers. Shipments to the glass industry in 1945 rose to 249,927 short tons, a record tonnage, 13 percent larger than the previous high in 1944. Sales to potteries also were at a high level and were 5 percent higher in 1945 than in 1944. Sales of enamel spar rose 63 percent in 1945 compared with 1944. Although still very much under pre-war years, this increase heralds the recovery of that industry from its wartime lows.

Ground feldspar sold by merchant mills in the United States, 1943-45

Use	1943		1944		1945	
	Short tons	Percent of total	Short tons	Percent of total	Short tons	Percent of total
Ceramic:						
Glass-------------	214,668	63.9	220,734	64.3	249,927	65.5
Pottery-----------	97,887	29.2	106,341	31.0	111,695	29.3
Enamel------------	7,147	2.1	8,464	2.5	13,755	3.6
Other ceramic uses	1,261	.4	849	.2	1,747	.4
Soaps and abrasives-	9,481	2.8	6,424	1.9	4,245	1.1
Other uses----------	5,366	1.6	389	.1	359	.1
	335,810	100.0	343,201	100.0	381,728	100.0

TECHNOLOGIC DEVELOPMENTS

The exhaustion of the more readily available deposits of the better grades of feldspar and the shortage of labor for hand-picking high-grade feldspar suitable for glass and various ceramic products, with the accompanying rise in cost of mining, have encouraged the development and adaptation of flotation methods to the refining of this mineral. Alaskite, granite, syenite and other similar abundant rocks can readily be used in place of relatively scarce smaller deposits of comparatively pure feldspar. Costly hand-picking would be curtailed as the impurities would be removed mechanically in the flotation process. Large quarrying operations might replace to a certain extent, at least, the present small scale mining, resulting in lower extraction costs. One large flotation mill already is in production in North Carolina, a second plant is being built in North Carolina, and another company, in New Hampshire, seriously has been considering the operation of a similar mill. In the process small quantities of long-chain amines and hydrofluoric acid are employed as flotation agents in the so-called Steffensen air flotation machine.

NEPHELINE SYENITE

Nepheline syenite is a quartz-free crystalline rock consisting principally of nephelite (an alumina-potash-soda silicate) and albite and microcline feldspars. Often associated are the iron-bearing minerals, black mica and magnetite, and accessory minerals such as zircon, corundum, and others. Its high alumina content (20 to 30 percent compared with 17 to 20 percent in most commercial feldspars) has made it especially desirable in the manufacture of glass. Continued research has broadened the possible applications to other branches of ceramics, such as pottery, sanitary and electrical procelain, floor and wall tile, glazes, and related uses. Its most active market however, is the manufacture of glass and glass products.

Except for Russia, the volume of whose production is not known, Canada is said to be the only commercial producer of nepheline syenite. The larger part of the Canadian output is shipped in crude form to the mill at Rochester, N. Y., ground and marketed to consumers in the United States. Imports of crude nepheline syenite in 1945 rose to 51,785 short tons valued at $194,975 and were the highest yet recorded, 20 percent in quantity and 30 percent in value larger than in 1943, the previous peak year.

APLITE

Shipments of ground "aplite" in 1945 showed a small decline in both tonnage and value compared with 1944. Virtually the entire production of aplite is consumed in the manufacture of glass, particularly glass containers, with quite small amounts used for enamel. Figures, however, may not be published, as to do so would reveal operations of individual firms. Two companies mine and process aplite: Dominion Minerals, Inc., Washington, D. C. (the first company to commence mining), and Carilina Mineral Co., Erwin, Tenn., an affiliate of the Consolidated Feldspar Corp., Trenton, N. J. Both firms operate mills near Piney River, Va.

IMPORTS

Feldspar. - Imports for consumption of crude feldspar in the United States in 1945 amounted to 14,924 long tons valued at $114,917, 28 percent greater in tonnage than in 1944, and the highest in both quantity and value since 1930. No ground feldspar was imported in 1945. All the crude spar received came from Canada.

WORLD PRODUCTION

The United States produces by far the major portion of the world's reported output of feldspar. Sizeable quantities in normal years have been mined in Canada, China, and a number of European countries, notably Sweden, Norway, Italy and Germany (Bavaria). Small outputs in South American countries and in several other widely scattered nations reflect the increasing tendency towards active development of local nonmetallic mineral resources.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

FOR RELEASE JULY 9, 1946.

MINERAL MARKET REPORTS
M. M. S. NO. 1423.

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MOLYBDENUM IN 1945

FINAL ANNUAL FIGURES - PLEASE FILE FOR REFERENCE UNTIL PRINTED REPORT IS AVAILABLE

For the second successive year the production of molybdenum concentrates in 1945 declined from the all-time high of 1943, according to the Bureau of Mines, United States Department of the Interior, in a report presenting the final figures for the year. The output (in terms of molybdenum content) of 30,802,000 pounds was 80 percent of that for 1944. In contrast, consumption increased 1,176,000 pounds (4 percent) over 1944. The net result of decreased production and increased consumption, plus an excess of exports over imports, was a decline of 13 percent in the stocks of concentrates held by producers and consumers in 1945.

Imports of molybdenum concentrates in 1945 declined to 19 percent of those for 1944 and included a substantial quantity shipped in from Canada for conversion and return to that country. Exports in 1945 decreased to 48 percent of those for the previous year, and went to Canada, U. S. S. R., France, Sweden, and the Netherlands.

Salient statistics of the molybdenum industry in the United States, 1941-45, in thousands of pounds of molybdenum contained in ore and concentrates

	1941	1942	1943	1944	1945
Production	40,363	56,942	61,667	38,679	30,802
Imports for consumption	4	756	1,789	3,499	665
Shipments (including exports)	38,377	66,437	53,955	39,423	32,524
Consumption	1/16,891	56,388	49,891	31,520	32,696
Stocks (producers' and consumers') December 31	21,226	12,540	17,811	19,335	16,899

1/ 6 months, July to December.

Total production of molybdenite declined 7,877,800 pounds (contained Mo) or 20 percent in 1945 as compared to 1944. Production at straight molybdenum mines dropped 5,239,100 pounds (22 percent), and byproduct molybdenum output by other producers decreased 2,638,700 pounds (18 percent). Byproduct molybdenite represented 38 percent of the total 1945 production. Molybdenite was produced in 6 states, the order of magnitude of production being Colorado, Utah, New Mexico, Arizona, Nevada, and California. The production came from 10 operations of which only 3 operated on straight molybdenum ore, and the other 7 recovered molybdenite as a byproduct.

Prepared by Edwin K. Jenckes, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch. Import and export figures compiled by M. B. Price, of the Bureau of Mines, from records of the U. S. Department of Commerce.

The total United States production of molybdenum concentrates for the period 1914 to 1945, inclusive, has amounted to 424,935,000 pounds of Mo contained. There was a small production before 1914 which probably did not exceed 100,000 pounds.

Molybdenum ore and concentrates imported for consumption in the United States, 1944-45, by countries

Country	1944			1945		
	Pounds			Pounds		
	Gross weight	Molybdenum content	Value	Gross weight	Molybdenum content	Value
Canada........	1/2,245,520	1/1,145,440	$1,086,072	887,153	460,416	$443,359
Chile.........	3,811,772	2,164,888	1,285,127	251,368	138,252	75,000
Mexico........	39,178	22,296	15,622	....	....	....
Peru..........	323,555	166,518	119,882	124,753	66,131	48,126
	6,420,025	3,499,142	2,506,703	1,263,274	664,799	566,485

1/ Imported for conversion and reexport.

Molybdenum ore and concentrates exported from the United States, 1944-45, by countries

Country	1944			1945		
	Pounds			Pounds		
	Gross weight	Molybdenum content	Value	Gross weight	Molybdenum content	Value
Canada........	1,656,087	853,906	$683,305	1,176,800	705,633	$468,400
France........	....	....	....	704,104	354,142	231,959
Netherlands...	....	....	....	22,400	12,544	10,097
Sweden........	....	....	....	191,400	115,364	91,954
U. S. S. R. ..	7,958,830	4,021,005	2,758,104	3,257,858	1,674,834	1,126,777
United Kingdom	2,239,846	1,110,489	727,398	....	....	....
	11,854,763	5,985,400	4,168,807	5,352,562	2,862,517	1,929,187

Export data on molybdenum have been available only since 1939, but it is known that exports in the preceding years were large. It is to be expected that this export market will re-appear when world economic conditions have stabilized and United States funds are available to the European buyers that are normally molybdenum consumers.

The principal uses for molybdenum are:

1. In certain alloy steels and alloy iron.
2. In other ferrous and nonferrous alloys.
3. In electronic equipment.
4. In certain light- and water-fast inks for printing and lithographing.
5. As a chemical reagent.

Inasmuch as the principal use of molybdenum is in alloy steels, its consumption follows their production in a general way. Alloy steel production decreased 19 percent in 1945 as compared to 1944, but the drop in consumption of molybdenum compounds entering into alloy steel was only 14 percent, the difference being accounted for by the broadening of the use of molybdenum as an alloying element. The consumption of other molybdenum products increased 57 percent.

Before the war molybdenum was used in about 30 percent of the total tonnage of alloyed engineering steels, but is now a component of virtually 80 percent. Although a part of the increase in the use of molybdenum can be attributed to its availability, wider application is indicated by many reports of new uses. As an example, molybdenum - with or without titanium - is now added to stainless steel to improve resistance to some types of severe corrosion. Cr-Mo steels are used for some parts of gas turbines. An austenitic, non-magnetic steel of the composition 16Cr-25Ni-6Mo has been proposed and tested with the view of raising the operating temperatures of gas turbines to obtain an increased fuel efficiency. It has been stated that molybdenum is probably the most effective element in contributing high temperature strength to ferrous alloys.

A variety of nonferrous alloys containing Mo are finding applications in uses where special properties are a requirement. While these uses will not equal those in ferrous alloys in volume, they may be expected to be of industrial significance.

The rapid increase in consumption of molybdenum in electronic equipment is a result of wartime requirements. The adaptation of electronics (e. g. radar) to peacetime uses should develop a sizable market for molybdenum compounds of sufficiently high degree of purity to meet the exacting demands of this growing field.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

FOR RELEASE JULY 10, 1946.

MINERAL MARKET REPORTS
M. M. S. No. 1424.

FINAL ANNUAL FIGURES - PLEASE FILE FOR REFERENCE UNTIL PRINTED REPORT IS AVAILABLE

VANADIUM IN 1945

Production of vanadium ores in 1945, measured by receipts at mills, dropped to 2,963,913 pounds (vanadium content), a decline of 563,141 pounds from the 1944 output, according to the Bureau of Mines, United States Department of the Interior, in a report containing final figures for 1945. Consumption of domestic ore amounted to 3,821,419 pounds (contained V) and was 291,890 pounds below that in 1944. In both production and consumption 1945 was the second year of progressive decline from the all-time highs established in 1943. Stocks of ore at mills decreased during 1945, and the December 31 inventories represented less than 4 months' supply at the 1945 rate of consumption. However, the apparently low year-end inventories of ore are counterbalanced in part by relatively high stocks of vanadium products. The 1945 production was divided as follows: 91 percent from Colorado, 3 percent from Utah, and 6 percent from Arizona and Idaho.

The United States production of vanadium ore for the period 1910-45, inclusive, has reached a total of 43,143,000 pounds (contained V) of which 21,193,000 pounds were mined in the years 1940-45.

Salient statistics of the vanadium industry in the United States, 1941-45, in pounds of vanadium contained

	1941	1942	1943	1944	1945
Mine shipments of ores and concentrates 1/...............	2,513,051	4,439,130	5,586,492	3,527,054	2,963,913
Imports:					
Ore or concentrates.........	2,138,608	2,422,376	2,052,620	1,284,603	1,552,307
Vanadium-bearing flue dust..	(2)	154,028	64,393	40,171	26,293
Exports of ore, concentrates, and vanadium oxide..........	25,462	22,140	38,180	6,254	113,927
Consumption (domestic ore only)	2,393,478	3,914,673	5,179,290	4,113,309	3,821,419

1/ Measured by receipts at mills and Government purchasing depots.
2/ Data not available.

Imports and exports in 1945 increased over those for 1944 by 253,826 and 107,673 pounds (contained V), respectively.

Prepared by Edwin K. Jenckes, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch. Import and export figures compiled by M. B. Price, of the Bureau of Mines, from records of the U. S. Department of Commerce.

Vanadium ore or concentrates and vanadium-bearing flue dust imported for consumption in the United States, 1944-45, by countries

Country	1944			1945		
	Pounds			Pounds		
	Gross weight	Vanadium content	Value	Gross weight	Vanadium content	Value
Ore or concentrates:						
Peru............	4,247,490	1,284,603	$633,719	8,777,018	1,552,307	$725,666
Vanadium-bearing flue dust:						
Curacao (N.W.I.)	169,274	36,370	24,695	133,795	26,293	19,378
Venezuela........	22,627	3,801	3,364	....	......	......
	191,901	40,171	28,059	133,795	26,293	19,378

Vanadium ore and concentrates 1/ exported from the United States, 1943-45, by countries, in pounds

Country	1943		1944		1945	
	Gross weight	Vanadium content	Gross weight	Vanadium content	Gross weight	Vanadium content
Australia...............	5,160	1,445	......	.....	......	....
Canada..................	75,438	26,186	6,390	2,201	3,049	955
Curacao (N.W.I.)........	......	......	......	.....	13,268	3,715
France..................	......	......	......	.....	218,500	105,931
India and Dependencies..	......	......	9,878	4,053	8	2
Iran....................	37,676	10,549	......	.....	....	....
U. S. S. R.	......	......	......	.....	6,767	3,324
	118,274	38,180	16,268	6,254	241,592	113,927

1/ Classed as ore and concentrates but probably also includes fused vanadium oxide.

Vanadium imports for 1945 comprise ore, concentrates, and dried precipitated vanadium pentoxide from Peru, and flue dust from Curacao. The large increase of exports in 1945 over those for 1944 is almost entirely accounted for by shipments to France.

During the early days of the war requirements rose to such a volume that no vanadium was available for civilian consumption and its use in some military steels was eliminated. This shortage lasted through the year 1942, but by December 1943 the production from domestic mines had expanded to such an extent that the availability of vanadium permitted of its removal from allocation. It is to be expected that the consumption of vanadium will be resumed for alloy steels whose melting was discontinued during the war years.

While at least 95 percent of the vanadium consumed in the United States finds its way into steel, small quantities are used in special ferrous and nonferrous alloys. An important wartime application of the material was in catalysts in the manufacture of aviation gasoline.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

UNIVERSITY OF ILLINOIS
JUL 17 1946

FOR RELEASE JULY 15, 1946

MINERAL MARKET REPORT
MMS. NO. 1425

ABRASIVE MATERIALS IN 1945

Diatomite, pumice and pumicite and metallic abrasives rose to new records of production in 1945, according to reports of producers to the Bureau of Mines, U. S. Dept. of the Interior. Total output of natural abrasives in 1945 totaled 980,780 short tons valued at $9,801,988, an increase of 3 percent in tonnage and 2 percent in value compared with 1944. Artificial abrasives, however, declined 10 percent in tonnage and 12 percent in value compared with 1944, due principally to the 21 percent drop in output of aluminum oxide. Domestic production of natural abrasives in 1945 amounted to 74 and 31 percent respectively of the total tonnage and value of artificial and natural abrasives combined compared with 71 and 28 percent in 1944. Marketed production of emery in 1945 was the highest since 1918 and that of garnet the highest since 1928. Output of grindstones, pulpstones (for which figures cannot be shown) and grinding pebbles also were larger in 1945 than in 1944. Domestic production of most of the other natural and artificial abrasive products herein discussed for which data may be shown registered only moderate declines in 1945 compared with 1944.

The total value of imports of natural abrasive materials in 1945 dropped 43 percent to $13,493,381. Imports of bort (glaziers' and engravers' diamonds, unset, and miners') accounted for the major share of this decrease, with a 15 percent decline in quantity and a 44 percent decline in value. The lowered receipts probably were due largely to the change in industrial activity because of the close of the war, and partly to the more general consumption of smaller size, less perfect industrial stones for many industrial purposes. Imports of corundum ore in 1945 continued large and were only 2 percent below the very active year 1944. No imports of crude or prepared pumice were reported in 1945 and only small amounts of garnet, burrstones, grindstones, sharpening stones and tripoli, rottenstone or diatomite. "Flint, flints and flintstones" were at more than twice the 1944 level, although much below prewar imports. Natural abrasive materials with a value of $2,087,598, were exported in 1945, compared with $2,091,675 in 1944. The value of emery and corundum wheels declined sharply to $144,589 although that of grindstones increased over sixty percent, and that of all other natural abrasive exports showed a moderate gain.

Prepared by Robert W. Metcalf and A. B. Holleman under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

Salient statistics of the abrasives industries in the United States, 1944-45

	1944		1945		Percent of change in 1945	
	Short tons	Value	Short tons	Value	Short tons	Value
Natural abrasives:						
Domestic production (sold or used by producers):						
Diatomite..........	1/174,957	1/$3,298,178	1/174,957	1/$3,298,178	----	----
Tripoli...........	18,425	301,863	18,247	306,829	-1.0	+1.6
Quartz............	82,379	286,478	57,764	236,803	-29.9	-17.3
Ground sand and sandstone.........	558,606	3,989,981	533,656	3,709,597	-4.5	-7.0
Grindstones.......	9,373	356,106	10,033	399,565	+7.0	+12.2
Pulpstones........	(2)	(2)	(2)	(2)	----	----
Oilstones and related products..	(3)	(3)	(3)	(3)	----	----
Millstones........	(4)	9,700	(4)	15,018	----	+54.8
Tube mill linings.	2,063	38,833	1,982	45,933	-3.9	+18.3
Grinding pebbles..	8,012	172,418	8,615	201,806	+7.5	+17.0
Pumice and pumicite	88,757	704,110	157,011	1,051,037	+76.9	+49.3
Garnet............	(2)	(2)	6,306	375,198	----	----
Corundum..........	(3)	(3)	----	----	----	----
Emery.............	6,940	64,858	7,856	75,977	+13.2	+17.1
Total natural abrasives 3/....	954,505	9,575,038	980,780	9,801,988	+2.8	+2.4
Artificial abrasives:						
Silicon carbide-production 5/.....	56,291	4,717,675	53,773	4,238,655	-4.5	-10.2
Aluminum oxide - production 5/.....	185,573	11,668,838	147,016	9,130,093	-20.8	-21.8
Metallic abrasives (steel shot and grit)-shipments..	144,540	8,441,505	146,771	8,524,073	+1.5	+1.0
Total artificial abrasives.......	386,404	24,828,018	347,560	21,892,821	-10.1	-11.8
Total abrasives	1,340,909	34,403,056	1,328,340	31,694,809	-1.0	-7.9

1/ Average annual figure for 1942-44. Bureau of Mines not at liberty to publish 1945 data.

2/ Data included in total; Bureau of Mines not at liberty to publish figures.

3/ Data for oilstones and related products in 1944 and 1945 and corundum in 1944 not included in totals; Bureau of Mines not at liberty to publish figures.

4/ Tonnage of millstones not recorded.

5/ Includes Canadian production.

This press release includes data for most of the materials used chiefly as abrasives, although certain clays, oxides and substances mentioned later under Miscellaneous Mineral Abrasive Materials are not included in the statistics presented herein. On the other hand, certain of the abrasive materials for which figures are shown also have important nonabrasive uses.

NATURAL SILICA ABRASIVES

Diatomite. - The Bureau of Mines has not been at liberty to publish annual production statistics since 1926. Total output (sales) for 3-year periods, however, may be shown. Total sales for the three most recent such periods were as follows: 1936-38, 279,645 short tons, valued at $4,377,353; 1939-41, 360,502 tons valued at $5,746,216; and 1942-44, 524,872 tons valued at $9,894,534. The high level of output indicated in the 1942-44 period was exceeded in 1945, although the actual figures cannot be shown.

The principal producing States in 1945 as for many years were California and Oregon. Increased output was reported in 1945 from Nevada and Washington. No production was made from Florida or Idaho. Other States mining diatomaceous earth in 1945 were Arizona and New York. The principal uses of diatomite are for filtration, insulation and fillers.

Tripoli. - Production of tripoli, amorphous silica and rottenstone in 1945 totaled 18,247 short tons valued at $306,829, or 1 percent less in quantity and 2 percent more in value than in 1944. Output in Illinois, the only State for which separate statistics may be given, was 7 percent less than in 1944. Other States marketing these materials in 1944 were Missouri and Pennsylvania.

The principal uses of tripoli are as abrasives - chiefly as a constituent of polishing and buffing compounds - and as filler. Tonnages reported as sold for abrasive use were about one-sixth less in 1945 than in 1944, and the quantity reported sold for fillers increased 16 percent. Tripoli sold for "other uses," including foundry facings, more than doubled.

Tripoli (including Pennsylvania rottenstone) sold or used by producers in the United States, 1941-45

Year	Illinois		Other States 1/		Total	
	Short tons	Value	Short tons	Value	Short tons	Value
1941......	13,833	$200,700	15,468	$221,046	29,301	$421,746
1942......	12,575	203,390	4,961	69,038	17,536	272,428
1943......	10,203	168,758	4,709	75,607	14,912	244,365
1944......	12,031	205,732	6,394	96,131	18,425	301,863
1945......	11,144	184,189	7,103	122,640	18,247	306,829

1/ 1941: Arkansas, California, Missouri, Oklahoma, Pennsylvania, and Texas; 1942 and 1944: Arkansas, Missouri, and Pennsylvania; 1943: Arkansas, Missouri, Oklahoma, and Pennsylvania; 1945: Missouri and Pennsylvania.

Quartz. - Sales of crude, crushed and ground quartz from pegmatite veins or dikes and from quartzite in 1945 dropped 29 percent in quantity and 17 percent in value compared with 1944.

Sales of quartz in 1945 were reported from 10 States, one less than reported in 1944. The greater part of the output came from Western States and the decrease in output largely was due to the smaller production of ferrosilicon in Pacific Coast States as a result of the cessation of hostilities. South Dakota was listed as a producer in 1945, but no output was reported from Maine or Tennessee.

Ground sand and sandstone. - Sales of ground sand and sandstone in 1945 continued at a high level, but were 4 percent less in tonnage and 7 percent less in value than in 1944. Sales in 1945 were higher than for any years except 1944 and 1943, and totaled 533,656 short tons valued at $3,709,597. Average value per ton in 1945 declined to $6.95 compared with $7.14 in 1944. The principal States producing sizable tonnages of ground sand and sandstone are Illinois, New Jersey, Ohio, and Pennsylvania.

Ground sand and sandstone sold or used by producers in the United States, 1941-45

Year	Short tons	Value	Year	Short tons	Value
1941..........	487,665	$3,073,730	1944..........	558,606	$3,989,981
1942..........	527,886	3,646,643	1945..........	533,656	3,709,597
1943..........	541,350	3,937,452			

Abrasive sands. - Natural sands with a high silica content are employed for sand blasting, stone polishing, glass grinding, coating sandpaper, or other abrasive uses. Sales of such grinding and polishing sand in 1945 totaled 642,511 short tons valued at $1,029,501. Included in these data were 318,390 tons of blast sand valued at $766,013. Information with respect to tonnages produced in each State, where these data may be published, appears in the chapter on Sand and Gravel in Minerals Yearbook 1945.

SPECIAL SILICA-STONE PRODUCTS

Grindstones and pulpstones. - Production of grindstones in 1945 was 7 percent larger in tonnage and 12 percent greater in value than in 1944, but slightly less in quantity than in 1943. Sales of pulpstones in 1945 increased substantially compared with 1944, although the Bureau of Mines is not at liberty to publish actual data. As in 1944, grindstones were produced in Ohio and West Virginia and pulpstones from West Virginia only.

Oilstones and related products. - Sales of natural sharpening stones, including oilstones, whetstones, scythestones and rubbing stones were somewhat higher in 1945 than in 1944. The Bureau of Mines, however, has not been at liberty to publish sales data since 1939.

Millstones. - The value of sales of millstones in 1945 totaled $15,018, 55 percent greater than in 1944, and the highest value since 1941.

Grinding pebbles and tube-mill liners. - Marketed production of grinding pebbles and tube-mill liners combined rose 5 percent in value in 1945 and 17 percent in tonnage compared with 1944 and totaled 10,597 short tons valued at $247,739. Sales of grinding pebbles in 1945 increased 8 percent in quantity and 17 percent in value compared with 1944. The value of tube-mill liners increased 18 percent, although the tonnage sold showed a small decrease of 4 percent. Grinding pebbles and tube-mill liners in 1945 were produced in the same States as in 1944 - grinding pebbles in California, Minnesota, North Carolina, Texas, Washington, and Wisconsin, and tube-mill liners in Minnesota, North Carolina and Wisconsin.

NATURAL SILICATE ABRASIVES

Pumice and pumicite. - Production of pumice and pumicite (or volcanic ash) broke all records in 1945, and rose to 157,011 short tons valued at $1,051,307, 24 percent larger in tonnage and 49 percent higher in value than 1942, the previous peak year. The quantity marketed in 1945 surpassed that sold in 1944 by 77 percent.

Pumice or pumicite was reported from eight States in 1945, the same States as in 1944, with the addition of a small output from Idaho. California replaced Kansas as the chief producing State and accounted for 48 percent of the total production compared with 30 percent of the total for Kansas. All States for which comparisons are possible showed substantial increases in 1945 compared with 1944, varying from 10 and 11 percent respectively for Kansas and Nebraska to 140 percent for California and a much larger proportional increase for Washington (464 percent).

Pumice and pumicite sold for concrete admixture and concrete aggregate in 1945 totaled 72,901 short tons, slightly greater in tonnage than the total reported used for all abrasive purposes - 71,011 tons, but very much less in value. The increase in output for acoustic plaster and for concrete aggregate and mixtures resulted from the larger use of pumice or pumicite - containing lightweight block and tile in construction activities, especially in California and Washington. Cleaning and scouring compounds, hand soaps and other abrasives in 1945 rose 11 percent in quantity compared with 1944 and accounted for 45 percent of the total tonnage marketed. Amounts sold for "other uses" also increased sharply and in 1945 included sales for use in insecticides, insulation, plastics, and solvents.

Pumice and pumicite sold or used by producers in the United States, 1943-45, by uses

Use	1943		1944		1945	
	Short tons	Value	Short tons	Value	Short tons	Value
Abrasive:						
Cleansing and scouring compounds and hand soaps.....	59,247	$354,242	57,833	$375,310	63,704	$434,928
Other abrasive uses........	4,216	64,988	6,094	136,753	7,307	229,212
Acoustic plaster.............	1,617	29,860	938	29,144	3,693	78,278
Concrete admixture and concrete aggregate..........	13,794	52,718	17,511	90,136	72,901	176,920
Other uses 1/................	6,276	109,687	6,381	72,767	9,406	131,699
	85,150	611,495	88,757	704,110	157,011	1,051,037

1/ 1943: Asphalt, insecticide, paint filler, brick manufacture, filtration, solvents, and unspecified; 1944: Insecticide, insulation, brick manufacture, filtration, solvents, and unspecified; 1945: Insecticide, solvents, plastics, and unspecified.

Garnet. - Output of garnet in 1945 rose to 6,308 short tons, valued at $375,196, the highest tonnage since 1928, and 6 percent greater than in 1943.

NATURAL ALUMINA ABRASIVES

Corundum. - Corundum, a natural alumina abrasive, Al_2O_3, was especially needed during the war for use in snagging wheels by companies making tanks, guns and other heavy military equipment and for polishing critically essential precision lenses.

Efforts to establish and foster a domestic corundum industry resulted only in small, almost negligible quantities of material, which were consumed largely for experimental purposes. Tests were undertaken principally in South Carolina, North Carolina and Montana. Although considerable tunneling and development work was carried forward, particularly in Montana, activity in each of these States finally was discontinued.

Most of the corundum consumed in the United States for many years originated in the Union of South Africa, particularly in the Transvaal. Although imports for consumption in the United States rose considerably during the war, the receipts were hardly adequate to satisfy the stepped-up demand for production of optical equipment and heavy materiel needed by the Army and Navy, and were maintained at a high level throughout 1945.

Emery. - Sales of domestic emery in 1945 were the largest since 1918, reaching 7,856 short tons valued at $75,977, 13 percent higher in tonnage and 17 percent higher in value than in 1944, an active year. The entire output, as in other recent years, was mined in and near Peekskill, N. Y.

NATURAL CARBON ABRASIVES

Industrial diamonds are produced chiefly in the Belgian Congo and the larger proportion of the rest of the world's supply is obtained from Gold Coast, Sierra Leone, and Angola. Total sales of industrials in 1944 were placed at £3,800,000, compared with the record figure of about £5,500,000 in 1943. Sales during the war years have exceeded production by large margins and the war demands for this product have only been met by very heavy withdrawals from accumulated stocks. Although industrial activity in the postwar period undoubtedly will be somewhat less than during the war, a steady if smaller market for industrial diamonds probably will continue.

Reflecting the curtailment of military production and the resultant current slackening in volume of industrial production, receipts in 1945 of "bort (glaziers' and engravers' diamonds, unset and miners')" - roughly corresponding to so-called "industrial grades" - dropped to 10,726,372 carats, the smallest year's imports since 1941, but much exceeding quantities received in 1941 and immediately preceding years.

ARTIFICIAL ABRASIVES

Production of artificial abrasives in 1945 continued at a high level, although, except for steel shot and grit (metallic abrasives), tonnages were somewhat less than in 1944. Shipments of metallic abrasives (steel shot and grit) in 1945 totaled 146,771 short tons valued at $8,524,073, a new high in both quantity and value. Production of silicon carbide in 1945 was 4 percent less in quantity and 10 percent less in value than in 1944. Output of aluminum oxide in 1945 decreased 21 percent in tonnage and 22 percent in value to the lowest point since 1941. Production of silicon carbide and aluminum oxide largely is concentrated in the Niagara Falls region of Canada and the United States; some aluminum oxide, however, also is manufactured in Quebec, Canada, and in Alabama.

Crude artificial abrasives sold, shipped, or used, from manufacturing plants in the United States and Canada, 1941-45

Year	Silicon carbide 1/		Aluminum oxide 1/		Metallic abrasives 2/		Total	
	Short tons	Value	Short tons	Value	Short tons	Value	Short tons	Value
1941	44,962	$3,325,928	147,759	$9,067,732	86,309	$4,050,659	279,030	$16,444,319
1942	61,681	4,904,309	183,633	12,719,337	106,442	5,618,913	351,756	23,242,559
1943	69,706	5,912,590	217,425	13,202,270	124,954	7,083,141	412,085	26,198,001
1944	56,291	4,717,675	185,573	11,668,838	144,540	8,441,505	386,404	24,828,018
1945	53,773	4,238,655	147,016	9,130,093	146,771	8,524,073	347,560	21,892,821

1/ Production; Bureau of Mines not at liberty to publish data for United States separately. Figures include material used for refractories and other nonabrasive purposes.

2/ Figures include only shipments from United States plants.

Statistics for metallic abrasives cover steel shot and grit (including figures for one firm that manufactures a similar product from salvaged wire clippings) but not steel wool. The principal producing States in 1945, in order of production, were Ohio, Michigan and Pennsylvania. Other States in which metallic abrasives were manufactured in 1945 were Illinois, Massachusetts, New Hampshire and New York.

MISCELLANEOUS MINERAL ABRASIVE MATERIALS

In addition to the natural and manufactured abrasive materials for which data are included herein, many other mineral substances are used for abrasive purposes. Various oxides, such as tin oxide, rouge, crocus, chromium oxide, magnesium and manganese oxide, are utilized as polishing agents. Cerium oxide also recently has been favored especially for glass polishing. Natural materials with specialized abrasive applications include finely pulverized and calcined clays (china clays, ball clays, fire clays), high-grade lime (Vienna and Sheffield lime), talc, ground feldspar, river salt, slate flour, whiting and other substances.

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FOR RELEASE July 24, 1946.

MINERAL MARKET REPORT
M.S NO. 1426

TALC, PYROPHYLLITE, AND GROUND SOAPSTONE INDUSTRIES OF THE UNITED STATES IN 1945. 1/

GENERAL CONDITIONS

Mined production of talc, pyrophyllite, and ground soapstone in 1945 continued its decline from the high levels of 1943, according to reports from producers to the Bureau of Mines, United States Department of the Interior. Sales increased slightly in quantity, but declined in value. Sales of the ground materials were larger in both quantity and value in 1945 than in 1944. Sales of crude were lower in both categories. Total imports in 1945 were less in both quantity and value than in 1944, as were also the imports of all classes of these materials. Exports of "talc, steatite, soapstone, and pyrophyllite, crude and ground" increased in 1945 both in quantity and value. Exports of "powder-talcum (in packages), face, and compact," increased greatly in value.

Production and sales figures of pyrophyllite are now available for 4 years, and are given in the footnotes of the salient statistics table. Pyrophyllite is included with talc in this chapter because of its resemblance to talc in certain physical properties, and because it is interchangeable with talc in some uses, although certain specialized uses for pyrophyllite have been developed in recent years. It is a hydrous aluminum silicate, whereas talc is a hydrous magnesium silicate.

1/ Soapstone sold in slabs or blocks is not included.

Prepared by Bertrand L. Johnson and Dorothy I. Marsh, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division; Economics and Statistics Branch.

Salient statistics of the talc, pyrophyllite, 1/ and ground-soapstone industries in the United States, 1944-45

	1944		1945	
	Short tons	Value	Short tons	Value
Mined:				
Total	418,228	(2)	401,217	(2)
Used by producers	353,209	(2)	361,749	(2)
Sold by producers:				
Crude	3/45,654	3/$514,476	39,331	$304,719
Sawed and manufactured	938	223,924	2,558	165,446
Ground	352,271	4,279,062	359,191	4,486,736
	398,863	5,017,462	401,080	4,956,901
Imports for consumption: 4/				
Crude and unground steatite and French chalk	696	60,137	385	20,980
Cut and sawed	132	20,639	122	17,618
Ground, washed, or pulverized	7,650	88,207	6,192	63,260
	8,478	168,983	6,699	101,858
Exports:				
Talc, steatite, soapstone, and pyrophyllite, crude and ground	10,709	229,293	11,141	279,178
Powder talcum (in packages), face, and compact	(5)	1,328,890	(5)	2,276,758
	----	1,558,183	----	2,555,936

1/ In 1944: Mined 67,252 short tons. Sold-crude, 5683 tons, $52,343; ground 60,560 tons $504,739; total, 66,243 tons, $557,082: In 1945: Mined 77,716 short tons, sold-crude 5,949 tons, $33,910; ground and other manufactures 71,645 tons, $617,290; total 77,594 tons $651,200 (exclusive of pinite).

2/ Data not available.

3/ Includes pinite from Nevada.

4/ Exclusive of "Manufactures, n.s.p.f., except toilet preparations," as follows: 1944; $25; 1945: $[illegible] Quantities not available.

5/ Quantity not recorded.

Thirteen states reported sales of talc, pyrophyllite, or ground soapstone in 1945, the same as in 1944. The greater part of the total sales was made by the Eastern States in 1945, and most of the remainder came from the Southwest-southeastern California and southwestern Nevada.

A downward trend in the production of talc reflected in a drop in average inventories to about six-weeks' supply prompted the War Production Board to issue on April 9, 1945, the amended Conservation Order M-239, Talc, effective April 23, 1945. This channeled the critical grades into the most essential war needs, such as the manufacture of rubber tires or for the packaging of synthetic rubber. The order was revoked August 20, 1945.

OUTLOOK

The growth of the talc, pyrophyllite, and ground soapstone industry, in evidence in the prewar years, was halted during the war at around the 400,000-tons a year level. The decline in the need for war usages is expected to be reflected in a smaller domestic production. Some newly developed wartime uses that may find application in a peace time economy may cushion the expected decline. Also the need for these commodities in paint and roofing materials for the postwar building programs may counterbalance the decline in painting and roofing activities by the Army and

Navy. Increased demands from the ceramic, rubber, paper, and other industries may later revive the prewar upward trend in sales.

Foreign cosmetic-grade talcs have already returned to the domestic market, and the importation of high-grade talcs from various European countries as well as from Manchuria and other Asiatic regions is expected to revive further.

SALES

In 1945, the quantity of domestic talc, pyrophyllite, and ground soapstone sold or used was slightly greater than in 1944, according to reports of the producers to the Bureau of Mines, but was less than in either 1943 or 1941. The total value reported was less than in 1944 or 1943. The average value per ton in 1945 was only $12.36, which was lower than in either 1943 or 1944.

Quoted prices on ground domestic talc per ton, carlots, bags, f.o.b. works, have remained constant for several years.

The prices on pyrophyllite were the same in 1945 and the first half of 1946 as in 1944.

The average values of all grades of talc, pyrophyllite, and ground soapstone in the past 5 years as reported to the Bureau of Mines by producers are given in the following table.

Talc, pyrophyllite, 1/ and ground soapstone sold by producers in the United States; 1941-45, by classes

Year	Crude			Sawed and manufactured		
	Short tons	Value at shipping point		Short tons	Value at shipping point	
		Total	Average		Total	Average
1941	2/43,823	2/393,839	2/8.99	4,186	$308,467	$73.69
1942	2/33,837	2/303,166	2/8.96	1,505	370,631	246.27
1943	30,200	289,563	9.59	1,669	316,373	18[illegible].92
1944	2/45,654	2/514,476	2/11.27	938	223,924	238.72
1945	39,331	304,719	7.75	2,558	165,446	64.68

Year	Ground			Total		
	Short tons	Value at shipping point		Short tons	Value at shipping point	
		Total	Average		Total	Average
1941	368,360	$3,999,566	$10.86	416,369	$4,701,892	$11.29
1942	352,621	4,080,279	11.57	387,963	4,754,076	12.25
1943	380,999	4,544,878	11.85	412,868	5,120,814	12.40
1944	352,271	4,279,062	12.15	398,863	5,017,462	12.58
1945	359,191	4,486,736	12.49	401,080	4,956,901	12.36

1/ In 1941: Crude, 5,683 tons, $52,343, ground, 60,560 tons; $504,739; total, 66,243 tons, $557,082 (exclusive of pinite). In 1945: Crude, 5,949 tons, $33,910; ground and other manufactures, 71,645 tons, $617,290; total, 77,594 tons, $651,200 (exclusive of pinite).

2/ Includes pinite from Nevada.

Sales by States. - In 1945 New York remained the leading producer by a considerable margin, although sales were again less than in the preceding year. In California, Georgia, North Carolina and Vermont, increases were recorded in sales in 1945 over 1944. The quantities reported as sold in California and North Carolina in 1945 were the highest ever recorded. The greater part of the pyrophyllite marketed comes from North Carolina.

Talc, pyrophyllite, and ground soapstone sold by producers in the United States, 1944-45, by States

State	1944		1945	
	Short tons	Value	Short tons	Value
California	65,191	$1,054,312	75,564	$1,098,936
Georgia	30,425	363,342	32,433	296,163
Maryland	17,130	161,222	14,707	149,170
Nevada	1/9,590	1/150,325	7,166	129,952
North Carolina	69,892	645,156	77,529	675,789
Vermont	60,692	724,556	64,046	737,181
Washington	3,288	34,103	2,249	27,591
Other States 2/	142,655	1,884,446	127,386	1,842,119
	398,863	5,017,462	401,080	4,956,901

1/ Includes pinite.
2/ Montana, New Mexico, New York, Pennsylvania, Texas and Virginia.

MARKETS

Seven industries - paint, ceramics, rubber, roofing, paper, toilet preparations, and insecticides - consumed 79 percent of the domestic sales of talc, pyrophyllite, and ground soapstone in 1945, according to reports from the producers. Increases were reported in sales to the ceramic, rubber, roofing, toilet preparations, and insecticide industries. Those in the rubber and insecticide industries were especially noticeable. The insecticide use now ranks fourth in quantity consumed and takes 9 percent of total sales. There was a marked decline in the quantity used for paints.

Talc, pryophyllite, and ground soapstone sold by producers in the United States, 1944-45, by uses

Use	1944		1945	
	Short tons	Percent of total	Short tons	Percent of total
Paint	110,767	28	96,485	24
Ceramics	31,932	8	34,258	8
Rubber	51,833	13	62,049	15
Roofing	45,535	11	46,238	11
Paper	27,161	7	27,088	7
Toilet preparations	15,965	4	19,034	5
Insecticides	21,454	5	35,723	9
Foundry facings	6,703	2	6,193	2
Crayons	1,358	(1)	758	(1)
Other uses reported 2/	40,046	10	30,352	8
Use not reported	46,109	12	42,902	11
	3/398,863	100	401,080	100

1/ Less than 0.5 percent.
2/ 1944: Chemical war service, refractory, plaster, plastics, bleaching, textile, and other minor uses. 1945: Refractory, plaster, plastics, textile, agriculture, and other minor uses.
3/ Includes pinite.

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MINERAL MARKET REPORT
M.M.S. NO. 1428

COKE AND BYPRODUCTS IN 1945 1/

The extraordinary activity in the coke industry in the United States during the period of World War II subsided markedly following the surrender of Japan in August, 1945, and total output of byproduct and beehive coke for the year declined 9 percent from the record set in 1944, according to Bureau of Mines, United States Department of the Interior. Production from byproduct ovens amounted to 62,094,288 net tons and from beehive ovens 5,213,893 tons, reductions of 7 percent and 25 percent, respectively, from the 1944 figures. When measured by peak 1944 wartime production, output showed a severe decline but when compared with former peacetime years it was substantially higher. The decline in 1945 was attributable not only to the abrupt transition from war to peace production following V-J Day but also to mine stoppages in October which curtailed shipments of bituminous coal to coke plants; failure of old byproduct coke-oven batteries that had been pushed hard during the war; and the closing down of a number of beehive coke plants because of labor difficulties and a lack of coal.

As coke production is geared closely to iron and steel operations, cutbacks in pig iron requirements in 1945 naturally affected the activity of coking operations. As a consequence, byproduct coke plants connected with iron and steel works, or "furnace" plants, operated at 83 percent of productive capacity compared with 93 percent in 1944 and nonfurnace or "merchant" plants, dropped from 94 to 88 percent of capacity.

The decline in rate of coke production in 1945 reduced the requirements of coking coal and byproduct and beehive ovens carbonized 7 percent and 25 percent, respectively, less coal than in 1944. While coking coal requirements were substantially lower than in 1944, supplies of such coal in 1945 were inadequate and it was necessary for the Solid Fuels Administration for War to continue regulatory measures promulgated in the war years to assure an equitable distribution of byproduct-coking coal. These measures permitted this agency to divert byproduct or special purpose coal from industrial plants using this coal for steam raising and also from coke plants with adequate stock piles to coke plants with an insufficient supply to maintain maximum operation. The Bureau of Mines continued to work closely with the Solid Fuels Administration for War in collecting and compiling statistical data relating to requirements, consumption, stocks, and days' supply of coking coals at byproduct coke plants.

The increase in OPA maximum prices applicable to sales of bituminous coal shipped from mines in 1945 resulted in a sharp gain in the cost of coal delivered to coking plants. The average cost per net ton for bituminous coal charged into byproduct ovens advanced 4 percent over 1944 to $5.29 and approached the peak cost of $5.40 a ton in 1920. The cost of bituminous coal charged into beehive ovens soared to a new peak of $3.51 per ton, a gain of 6 percent over the previous maximum registered in 1944.

The consumption of coke in blast furnaces decreased 11 percent during 1945 and reflected the decline in steel plant operations. The strong demand for coke for other purposes (for use in iron foundries, for manufacturing water gas and producer gas, and miscellaneous industrial purposes) continued throughout the year and consumption increased slightly over the 1944 total. Although coke shipments for domestic or household use increased 4 percent during the first nine months of 1945 over the corresponding period of 1944, this gain was offset in part in the last quarter and shipments for the entire year were less than 1 percent higher than the 1944 total.

According to data compiled by the Bureau of Mines from records of the United States Department of Commerce, export shipments of coke in 1945 increased 71 percent over 1944 and were the highest reported since 1918. This sharp increase was due primarily to the heavy shipments to Canada of reclaimed beehive coke recovered from huge waste banks in Western Pennsylvania. It is estimated that shipments of reclaimed coke in 1945 constituted 20 percent of the total exports of all coke. Notwithstanding this large tonnage of reclaimed coke, export shipments of byproduct and beehive coke increased sharply and were well above those of recent years. Imports of coke were negligible and represented less than 0.01 percent of the total consumption of coke in the United States.

The extremely heavy demand for coke throughout 1945 made it necessary for byproduct producers to draw from stocks and therefore total inventories at the end of the year were 15 percent lower than on January 1, 1945, and were equivalent to but 5.6 days' production at the rate prevailing in December, 1945. During the same period, stocks of furnace coke declined 11 percent, domestic and other coke 19 percent, whereas foundry coke stocks increased 34 percent. Beehive plants carry small stocks of coke and at the end of 1945, only 4,814 tons were in reserve.

Because byproduct coking is a continuous process, adequate reserves of coking coal are essential to assure full-scale operations. Stocks of bituminous coal at byproduct-coke plants at the beginning of 1945 totaled 6,111,538 tons, a quantity sufficient for 24 days' average requirements at the rate of consumption prevailing in December, 1944. However, because of the heavy demand for bituminous coal throughout the year, stocks at byproduct-coke plants could not be built up and when mine stoppages in October hampered the flow of coking coal, stocks were reduced to the lowest point since July 1, 1939. On an industry-wide basis the tonnage on hand on October 31, 1945 was sufficient for 14 days' supply if based on the normal average daily requirements of all plants, but inventories at many of the large steel companies' coke plants averaged less than a week's supply. Although stocks increased in November and December, the tonnage on hand at the end of the year was far short of the reserves normally carried by the operators.

1/ This report contains selected tables showing final statistics of the coke industry for 1945. The complete report with detailed tables to be released shortly as a chapter of Minerals Yearbook 1945, will be distributed to the regular mailing list.

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TABLE 1. - SALIENT STATISTICS OF THE BYPRODUCT AND BEEHIVE COKE INDUSTRY IN THE UNITED STATES IN 1945

	Byproduct	Beehive	Total
Coke produced -			
At merchant plants:			
Net tons	13,399,116	(1)	13,399,116
Value	$118,229,418		$118,229,418
At furnace plants:			
Net tons	48,695,172		48,695,172
Value	$351,960,921		$351,960,921
Total:			
Net tons	62,094,288	5,213,893	67,308,181
Value	$470,190,339	$38,349,703	$508,540,042
Screenings or breeze produced:			
Net tons	4,628,533	92,294	4,720,827
Value	$12,535,373	$96,747	$12,632,120
Coal charged into ovens:			
Bituminous:			
Net tons	87,214,163	8,134,629	95,348,792
Value	$460,927,459	$28,566,098	$489,493,557
Anthracite:			
Net tons	322,601	....	322,601
Value	$1,567,616	....	$1,567,616
Total:			
Net tons	87,536,764	8,134,629	95,671,393
Value	$462,495,075	$28,566,098	$491,061,173
Average per ton	$5.28	$3.51	$5.13
Average yield in percent of total coal charged:			
Coke	70.94	64.10	70.35
Breeze (at plants actually recovering)	5.31	3.43	5.26
Ovens:			
In existence January 1	14,580	16,318	30,898
In existence December 31	14,510	12,179	26,689
Dismantled during year	176	4,505	4,681
In course of construction December 31	335	....	335
Annual capacity of ovens December 31 .... net tons	71,399,100	8,094,850	79,493,950
Coke used by producer -			
In blast furnaces:			
Net tons	34,365,834	240,547	34,606,381
Value	$256,729,973	$1,884,251	$258,614,224
In foundries:			
Net tons	43,936	....	43,936
Value	$384,697	....	$384,697
To make producer gas:			
Net tons	807,926	....	807,926
Value	$5,598,986	....	$5,598,986
To make water gas:			
Net tons	1,625,879	....	1,625,879
Value	$10,998,464	....	$10,998,464
For other purposes:			
Net tons	325,995	76,435	402,430
Value	$2,586,805	$718,976	$3,305,781
Disposal of coke:			
Sold to financially affiliated plants -			
For blast furnace use:			
Net tons	10,518,776	1,725,385	12,244,161
Value	$65,476,552	$11,942,926	$77,419,478
For foundry use:			
Net tons	3,206	....	3,206
Value	$19,539	....	$19,539
For manufacture of water gas:			
Net tons	380,977	....	380,977
Value	$2,994,546	....	$2,994,546
For other purposes:			
Net tons	169,269	459	169,728
Value	$1,204,260	$3,833	$1,208,093
Sold to other consumers -			
For blast furnace use:			
Net tons	2,026,012	2,126,367	4,152,379
Value	$15,937,579	$15,687,901	$31,625,480
For foundry use:			
Net tons	2,334,827	254,762	2,589,589
Value	$26,814,107	$2,155,918	$28,970,025
For manufacture of water gas:			
Net tons	1,076,144	187,697	1,263,841
Value	$8,927,407	$1,440,222	$10,367,629
For other industrial use:			
Net tons	1,852,871	433,901	2,286,772
Value	$15,517,471	$3,311,237	$18,828,708
For domestic use:			
Net tons	6,574,526	200,982	6,775,508
Value	$57,124,329	$1,461,402	$58,585,731

Continued on next page.

TABLE 1. - SALIENT STATISTICS OF THE BYPRODUCT AND BEEHIVE COKE INDUSTRY IN THE UNITED STATES IN 1945 - Continued

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	Byproduct	Beehive	Total
Disposal of screenings or breeze:			
Used by producer -			
For raising steam:			
Net tons	3,405,509	22,364	3,427,873
Value	$9,189,234	$21,492	$9,210,726
To make producer or water gas:			
Net tons	57,573	....	57,573
Value	$208,663	....	$208,663
For other purposes:			
Net tons	712,621	3,458	716,079
Value	$1,843,516	$6,355	$1,849,871
Sold:			
Net tons	1,088,890	89,505	1,178,395
Value	$2,998,426	$63,068	$3,061,494
Average receipts per ton sold (merchant sales):			
Furnace coke	$7.87	$7.38	$7.62
Foundry coke	$11.48	$8.46	$11.19
Water gas coke	$8.30	$7.66	$8.20
Other industrial coke	$8.37	$7.63	$8.23
Domestic coke	$8.69	$7.27	$8.65
Screenings or breeze	$2.75	$0.70	$2.60
Stocks on January 1, 1946:			
Furnace coke ... net tons	425,438	2,455	427,893
Foundry coke ... do	24,509	270	24,779
Domestic and other coke ... do	477,052	2,089	479,141
Screenings or breeze ... do	1,022,561	20	1,022,581
Exports ... do	....	....	1,478,746
Imports ... do	....	....	51,964
Calculated consumption ... do	....	....	66,074,271
Byproducts produced:			
Tar ... gallons	696,300,936	....	696,300,936
Ammonium sulfate or equivalent ... pounds	1,749,074,213	....	1,749,074,213
Gas ... M cubic feet	904,476,118	....	904,476,118
Burned in coking process ... percent	37.27	....	37.27
Surplus sold or used ... do	61.28	....	61.28
Wasted ... do	1.45	....	1.45
Crude light oil ... gallons	245,687,253	....	245,687,253
Yield of byproducts per ton of coal:			
Tar ... do	7.95	....	7.95
Ammonium sulfate or equivalent ... pounds	20.21	....	20.21
Gas ... M cubic feet	10.33	....	10.33
Crude light oil ... gallons	2.84	....	2.84
Value of byproducts sold:			
Tar:			
Sold	$21,827,890	....	$21,827,890
Used by producer	$5,905,645	....	$5,905,645
Ammonium sulfate or equivalent	$22,090,179	....	$22,090,179
Gas (surplus)	$87,745,022	....	$87,745,022
Crude light oil and derivatives	$29,448,732	....	$29,448,732
Other byproducts 2/	$11,026,382	....	$11,026,382
Total value of coke and breeze produced and byproducts sold 3/	$660,769,562	$38,446,450	$699,216,012

1/ Not separated into merchant and furnace plants. 2/ Includes naphthalene, tar derivatives, and miscellaneous byproducts. 3/ Includes value of tar used by producer.

TABLE 2. - BYPRODUCT COKE PRODUCED IN THE UNITED STATES IN 1945, BY GEOGRAPHICAL DISTRICTS IN THE IRON AND STEEL INDUSTRY

District	Plants	Ovens	Coal charged (net tons)	Yield of coke from coal (percent)	Coke produced (net tons)	Value of coke at ovens	
						Total	Per ton
Eastern	22	3,424	22,329,862	71.06	15,868,307	$134,102,688	$8.45
Pittsburgh-Youngstown	16	3,707	23,499,753	70.15	16,484,795	99,157,330	6.02
Cleveland-Detroit	11	1,475	9,293,492	71.89	6,680,803	55,585,044	8.32
Chicago	20	3,153	18,143,004	72.72	13,193,251	117,566,411	8.91
Southern	14	2,165	11,575,040	71.19	8,240,635	48,614,106	5.90
Western	4	586	2,695,613	60.34	1,626,497	15,164,760	9.32
	87	14,510	87,536,764	70.94	62,094,288	470,190,339	7.57

TABLE 3. - STATISTICAL TRENDS OF THE BYPRODUCT AND BEEHIVE COKE INDUSTRY IN THE UNITED STATES, 1937 AND 1942-45

	1937	1942	1943	1944	1945
Coke produced:					
Byproduct .... net tons ..	49,210,748	62,294,909	63,742,676	67,064,795	62,094,288
Beehive .... do ..	3,164,721	8,274,035	7,933,387	6,973,022	5,213,893
Total .... do ..	52,375,469	70,568,944	71,676,063	74,037,817	67,308,181
Percent from byproduct ovens	94.0	88.3	88.9	90.6	92.3
Stocks of coke, end of year .... net tons ..	2,595,287	1,489,049	862,100	1,124,685	931,813
Exports, all coke .... do ..	526,683	839,582	994,607	866,835	1,478,746
Imports, all coke .... do ..	286,364	108,782	98,127	63,004	51,964
Calculated consumption, all coke ..... do ..	51,271,929	70,107,181	71,406,532	72,971,401	66,074,271
Disposal of coke, all coke sold or used:					
Furnace coke .... do ..	36,751,969	55,491,570	57,690,160	57,481,353	51,002,921
Foundry coke .... do ..	2,038,822	2,591,576	2,606,889	2,511,854	2,636,731
Other industrial coke (including producer and water gas) .... do ..	4,597,894	6,598,842	6,999,884	6,978,062	6,937,553
Domestic coke .... do ..	8,107,518	6,061,694	4,885,528	6,717,543	6,775,508
Ovens:					
Byproduct, in existence, end of year	12,718	13,303	14,253	14,580	14,510
Beehive, in existence, end of year	12,194	16,295	17,666	16,318	12,179
Byproduct, under construction, end of year	259	1,327	528	180	335
Cost of coal charged, byproduct ovens, average per ton	$3.74	$4.38	$4.75	$5.08	$5.28
Prices of coke:					
Average spot price of Connellsville furnace coke, f.o.b. ovens	$4.29	$6.01	$6.46	$7.00	$7.29
Average realization on byproduct coke sold (merchant sales):					
Furnace coke	$4.34	$6.58	$7.26	$7.59	$7.87
Foundry coke	$8.47	$10.15	$10.17	$11.03	$11.48
Other industrial coke (including water gas) ..	$6.08	$7.30	$7.43	$8.12	$8.35
Domestic coke	$6.53	$7.88	$8.21	$8.63	$8.69
Yield of byproducts per ton of coal charged:					
Tar .... gallons ..	8.67	8.41	8.11	8.13	7.95
Ammonium sulfate or equivalent .... pounds ..	21.84	20.85	20.32	20.29	20.22
Light oil .... gallons ..	2.86	2.88	2.83	2.87	2.84
Surplus gas sold or used .... M cubic feet ..	6.66	6.65	6.59	6.58	6.33
Average gross receipts for byproducts per ton of coke produced:					
Tar sold and used	$0.502	$0.473	$0.463	$0.458	$0.447
Ammonia and its compounds	$0.326	$0.348	$0.355	$0.324	$0.356
Light oil and its derivatives (including naphthalene)	$0.435	$0.501	$0.546	$0.552	$0.503
Surplus gas sold or used	$1.483	$1.426	$1.390	$1.403	$1.413.
Total byproducts, including breeze	$2.974	$3.100	$3.123	$3.102	$3.069

TABLE 4. - BYPRODUCT AND BEEHIVE COKE PRODUCED IN THE UNITED STATES, 1937 AND 1942-45, BY STATES, IN NET TONS

	1937	1942	1943	1944	1945
Byproduct:					
Alabama	4,259,771	5,579,511	5,316,455	5,727,612	5,400,925
California	....	....	317,847	339,570	256,092
Colorado	486,945	676,209	672,502	650,511	639,099
Connecticut	(1)	(1)	(1)	(1)	(1)
Illinois	2,998,663	3,690,155	3,625,457	3,878,764	3,681,516
Indiana	5,467,061	7,337,512	8,111,916	8,821,021	7,814,247
Kentucky	(1)	(1)	(1)	(1)	(1)
Maryland	1,513,651	2,103,664	2,059,839	2,058,233	2,024,609
Massachusetts	1,130,620	1,176,359	1,174,152	1,177,850	1,149,448
Michigan	2,283,518	3,139,137	2,948,389	3,005,424	2,805,970
Minnesota	704,631	955,301	956,396	894,095	825,620
Missouri	(1)	(1)	(1)	(1)	(1)
New Jersey	1,015,073	1,038,461	1,014,268	1,022,917	1,284,020
New York	4,946,964	5,180,384	5,347,369	6,102,560	5,789,974
Ohio	6,737,881	9,912,783	10,270,758	10,338,913	9,405,710
Pennsylvania	13,701,262	16,310,167	16,518,872	16,976,574	15,255,137
Rhode Island	(1)	(1)	(1)	(1)	(1)
Tennessee	89,451	234,529	254,211	219,503	236,979
Texas	....	....	....	184,506	140,254
Utah	149,659	242,531	240,736	739,432	731,306
Washington	14,656	....	14,853	....	....
West Virginia	1,817,993	2,444,368	2,611,825	2,637,591	2,462,477
Wisconsin	(1)	(1)	(1)	(1)	(1)
Combined States	1,892,949	2,273,838	2,286,831	2,289,719	2,190,905
	49,210,748	62,294,909	63,742,676	67,064,795	62,094,288
Beehive:					
Alabama	....	95,428	34,674	....	....
Colorado	64,222	87,447	85,141	81,684	72,678
Kentucky	....	1,138	29,298	68,076	74,404
Pennsylvania	2,559,048	7,309,337	6,934,445	6,170,897	4,583,720
Tennessee	14,982	72,541	48,861	8,850	....
Utah	6,657	22,402	84,093	21,442	4,205
Virginia	240,425	350,521	293,324	243,116	191,032
West Virginia	279,387	335,221	423,551	378,957	287,854
	3,164,721	8,274,035	7,933,387	6,973,022	5,213,893
Grand total	52,375,469	70,568,944	71,676,063	74,037,817	67,308,181

1/ Included under "Combined States."

TABLE 5. - COKE PRODUCED, VALUE, NUMBER OF OVENS, COAL CHARGED, AND AVERAGE YIELD IN THE UNITED STATES IN 1945, BY STATES

State	Byproduct						
	Plants	Ovens	Coal charged (net tons)	Yield of coke from coal (percent)	Coke produced (net tons)	Value of coke at ovens	
						Total	Per ton
Alabama	7	1,490	7,541,430	71.62	5,400,925	$33,448,229	$6.19
California	1	90	439,497	58.27	256,092	(1)	(1)
Colorado	1	188	980,460	65.18	639,099	(1)	(1)
Illinois	9	882	5,197,860	70.83	3,681,516	32,377,629	8.79
Indiana	5	1,816	10,634,056	73.48	7,814,247	68,458,007	8.76
Maryland	1	422	2,767,471	73.16	2,024,609	(1)	(1)
Massachusetts	2	215	1,622,328	70.85	1,149,448	(1)	(1)
Michigan	2/5	568	3,928,922	71.42	2,805,970	24,119,361	8.60
Minnesota	3	196	1,157,426	71.33	825,620	7,760,362	9.40
New Jersey	2	280	1,801,096	71.29	1,284,020	(1)	(1)
New York	8	1,142	8,224,361	70.40	5,789,974	46,676,238	8.06
Ohio	15	2,099	13,199,416	71.26	9,405,710	70,381,885	7.48
Pennsylvania	13	3,625	21,750,174	70.14	15,255,137	98,161,908	6.43
Tennessee	1	44	318,796	74.34	236,979	(1)	(1)
Texas	3/1	125	201,658	69.55	140,254	(1)	(1)
Utah	2	308	1,275,656	57.33	731,306	(1)	(1)
West Virginia	4/5	506	3,513,156	70.09	2,462,477	11,939,470	4.85
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin	6	514	2,983,001	73.45	2,190,905	19,840,493	9.06
Undistributed	....	......	....	....	....	57,026,757	8.83
Total: 1945	87	14,510	87,536,754	70.94	62,094,288	470,190,339	7.57
1944	88	14,580	94,437,887	71.01	67,064,795	478,844,172	7.14

State	Beehive						Total	
	Ovens	Coal charged (net tons)	Yield of coke from coal (percent)	Coke produced (net tons)	Value of coke at ovens		Coke produced (net tons)	Value of coke at ovens
					Total	Per ton		
Alabama	......	....	....	....	....	.....	5,400,925	$33,448,229
California	......	....	....	....	....	.....	256,092	(1)
Colorado	160	111,884	64.96	72,678	(1)	(1)	711,777	(1)
Illinois	......	....	....	....	....	.....	3,681,516	32,377,629
Indiana	......	....	....	....	....	.....	7,814,247	68,458,007
Maryland	......	....	....	....	....	.....	2,024,609	(1)
Massachusetts	......	....	....	....	....	.....	1,149,448	(1)
Michigan	......	....	....	....	....	.....	2,805,970	24,119,361
Minnesota	......	....	....	....	....	.....	825,620	7,760,362
New Jersey	......	....	....	....	....	.....	1,284,020	(1)
New York	......	....	....	....	....	.....	5,789,974	46,676,238
Ohio	......	....	....	....	....	.....	9,405,710	70,381,885
Pennsylvania	9,969	7,111,401	64.46	4,583,720	$33,233,516	$7.25	19,838,857	131,395,424
Tennessee	......	....	....	....	....	.....	236,979	(1)
Texas	......	....	....	....	....	.....	140,254	(1)
Utah	297	7,945	52.93	4,205	(1)	(1)	735,511	(1)
Virginia	749	325,184	58.75	191,032	1,541,650	8.07	191,032	1,541,650
West Virginia	813	459,550	62.64	287,854	2,228,115	7.74	2,750,331	14,167,585
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin	191	118,665	62.70	74,404	(1)	(1)	2,265,309	(1)
Undistributed	......	....	....	....	1,346,422	8.78	....	78,213,672
Total: 1945	12,179	8,134,629	64.10	5,213,893	38,349,703	7.36	67,308,181	508,540,042
1944	16,318	10,858,435	64.22	6,973,022	49,077,334	7.04	74,037,817	527,921,506

1/ Included under "Undistributed." 2/ One plant operated through July only. 3/ Operated through October only. 4/ One plant operated through August only.

TABLE 6. - NUMBER AND PRODUCTION OF BYPRODUCT-COKE PLANTS CONNECTED WITH IRON FURNACES AND OF OTHER PLANTS IN THE UNITED STATES, 1913, 1918, 1937, AND 1944-45

Year	Number of active plants		Coke produced (net tons)		Percent of production	
	Furnace plants	Other plants	Furnace plants	Other plants	Furnace plants	Other plants
1913	20	16	9,277,832	3,436,868	73.0	27.0
1918	36	24	19,220,342	6,777,238	73.9	26.1
1937	43	42	36,134,209	13,076,539	73.4	26.6
1944	53	35	52,919,844	14,144,951	78.9	21.1
1945	53	34	48,695,172	13,399,116	78.4	21.6

TABLE 7. - COKE BREEZE RECOVERED AT COKE PLANTS IN THE UNITED STATES IN 1945, BY STATES

State	Yield per ton of coal (percent) 1/	Produced		Used by producer - For steam raising	
		Net tons	Value	Net tons	Value
Byproduct:					
Alabama	3.70	278,701	$925,480	126,820	$322,391
California	5.46	24,000	(2)	....	....
Colorado	9.06	88,782	(2)	21,916	(2)
Illinois	6.65	345,664	1,003,964	183,357	573,427
Indiana	5.28	561,127	1,662,796	350,009	1,281,674
Maryland	7.39	204,582	(2)	47,778	(2)
Massachusetts	7.31	118,644	(2)	122,201	(2)
Michigan	5.65	222,066	801,850	120,315	397,455
Minnesota	7.68	88,839	280,121	60,301	176,657
New Jersey	6.36	114,568	(2)	108,323	(2)
New York	5.55	456,522	1,392,808	376,505	1,088,500
Ohio	5.81	766,741	1,842,025	442,186	1,011,548
Pennsylvania	4.21	914,974	2,016,677	1,077,625	2,634,546
Tennessee	2.84	9,060	(2)	4,504	(2)
Texas	3.83	7,727	(2)	....	....
Utah	7.94	101.253	(2)	105,923	(2)
West Virginia	4.73	147,382	263,828	97,071	177,403
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin	5.96	177,901	561,352	160,675	482,305
Undistributed	....	....	1,784,472	....	1,043,328
Total, 1945	5.31	4,628,533	12,535,373	3,405,509	9,189,234
At merchant plants	5.85	1,072,555	3,345,635	845,855	2,445,664
At furnace plants	5.17	3,555,978	9,189,738	2,559,654	6,743,570
Total, 1944	5.29	4,965,064	13,281,342	3,350,917	8,526,914
Beehive:					
Colorado	3.04	3,406	(2)	....	....
Pennsylvania	3.74	87,128	88,654	22,364	21,492
Utah	2.64	210	(2)	....	....
Virginia	.03	52	(2)	....	....
West Virginia	2.00	1,498	(2)	....	....
Undistributed	....	....	8,093	....	....
Total, 1945	3.43	92,294	96,747	22,364	21,492

State	Used by producer - continued - For other purposes including water gas		Sold		Wasted (net tons)	On hand Dec. 31 (net tons)
	Net tons	Value	Net tons	Value		
Byproduct:						
Alabama	25,985	$87,714	113,013	$477,192	....	23,615
California	16,092	(2)	10,061	(2)	....	35,303
Colorado	55,087	(2)	14,392	(2)	....	4,871
Illinois	68,932	266,554	123,653	251,227	....	109,289
Indiana	113,887	350,592	190,734	274,563	....	170,867
Maryland	27,121	(2)	129,474	(2)	....	209,287
Massachusetts	5,556	(2)	5,853	(2)	....	9,950
Michigan	22,987	84,860	76,547	312,292	....	35,770
Minnesota	8,553	(2)	17,618	51,004	....	39,238
New Jersey	....	....	264	(2)	....	13,916
New York	80,100	260,506	54,422	192,434	....	61,492
Ohio	241,265	554,073	103,167	340,927	....	113,560
Pennsylvania	52,459	100,348	130,604	269,309	....	97,958
Tennessee	....	....	9,302	(2)	....	6,970
Texas	5,125	(2)	66	(2)	....	2,536
Utah	15,912	(2)	51,379	(2)	....	46,953
West Virginia	31,101	49,273	31,675	53,132	....	22,757
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin	32	74	26,666	103,821	....	18,229
Undistributed	....	298,185	....	672,525	....	....
Total, 1945	770,194	2,052,179	1,088,890	2,998,426	....	1,022,561
At merchant plants	70,367	239,263	189,543	758,259	....	169,376
At furnace plants	699,827	1,812,916	899,347	2,240,167	....	853,185
Total, 1944	732,744	1,775,873	1,018,147	3,244,128	....	1,491,784
Beehive:						
Colorado	3,406	(2)	....	....	....	....
Pennsylvania	....	....	89,352	(2)	31,306	....
Utah	....	....	153	(2)	57	....
Virginia	52	(2)	....	....	....	20
West Virginia	....	....	....	....	1,498	....
Undistributed	....	6,355	....	63,068	....	....
Total, 1945	3,458	6,355	89,505	63,068	3/32,861	20

1/ Computed by dividing production of breeze by coal charged at plants actually recovering. 2/ Included under "Undistributed." 3/ As reported: Quantity produced but not used was undoubtedly greater. See Mineral Resources of the United States, 1922, pt. 2, pp. 726-727.

TABLE 8. - TOTAL QUANTITY AND VALUE AT OVENS OF COAL USED IN MANUFACTURING COKE IN THE UNITED STATES IN 1945, BY STATES

State	Coal used (net tons)	Cost of coal		Coal per ton of coke	
		Total	Average	Net tons	Cost
Byproduct:					
Alabama	7,541,430	$33,680,762	$4.47	1.40	$6.26
California	439,497	(1)	(1)	1.72	(1)
Colorado	980,460	(1)	(1)	1.53	(1)
Illinois	5,197,860	32,034,217	6.16	1.41	8.69
Indiana	10,634,056	66,238,174	6.23	1.36	8.47
Maryland	2,767,471	(1)	(1)	1.37	(1)
Massachusetts	1,622,328	(1)	(1)	1.41	(1)
Michigan	3,928,922	21,789,352	5.55	1.40	7.77
Minnesota	1,157,426	7,548,519	6.52	1.40	9.13
New Jersey	1,801,096	(1)	(1)	1.40	(1)
New York	8,224,361	49,684,071	6.04	1.42	8.58
Ohio	13,199,416	69,553,535	5.27	1.40	7.38
Pennsylvania	21,750,174	95,807,194	4.40	1,43	6.29
Tennessee	318,796	(1)	(1)	1.35	(1)
Texas	201,658	(1)	(1)	1.44	(1)
Utah	1,275,656	(1)	(1)	1.74	(1)
West Virginia	3,513,156	12,522,020	3.56	1.43	5.09
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin	2,983,001	17,749,446	5.93	1.36	8.09
Undistributed	....	55,887,785	5.94	1.46	8.67
	87,536,764	462,495,075	5.28	1.41	7.44
At merchant plants	18,744,286	110,549,445	5.90	1.40	8.26
At furnace plants	68,792,478	351,945,630	5.12	1.41	7.22
Beehive:					
Colorado	111,884	(1)	(1)	1.54	(1)
Kentucky	118,665	(1)	(1)	1.59	(1)
Pennsylvania	7,111,401	24,943,962	3.51	1.55	5.44
Utah	7,945	(1)	(1)	1.89	(1)
Virginia	325,184	1,005,835	3.09	1.70	5.25
West Virginia	459,550	1,557,732	3.39	1.60	5.42
Undistributed	....	1,058,569	4.44	1.58	7.02
	8,134,629	28,566,098	3.51	1.56	5.48

1/ Included under "Undistributed."

TABLE 9. - AVERAGE COST PER NET TON OF COAL CHARGED INTO BYPRODUCT-COKE OVENS IN THE UNITED STATES, 1937 AND 1942-45, BY STATES

State	1937	1942	1943	1944	1945	State	1937	1942	1943	1944	1945
Alabama	$2.33	$3.13	$3.60	$4.03	$4.47	Pennsylvania	$2.98	$3.44	$3.96	$4.28	$4.40
Illinois	4.62	5.28	5.62	6.04	6.16	West Virginia	2.54	2.92	3.19	3.32	3.56
Indiana	4.71	5.50	5.85	6.11	6.23	All other States 1/	4.53	5.26	5.59	5.72	5.94
Michigan	4.16	4.87	4.57	5.39	5.55	United States average	3.74	4.38	4.75	5.08	5.28
Minnesota	5.24	5.64	6.02	6.35	6.52						
New York	4.55	5.37	5.59	5.88	6.04	Cost of coal per ton of coke	5.27	6.18	6.70	7.16	7.44
Ohio	3.76	4.41	4.73	5.03	5.27						

1/ Includes California, Colorado, Connecticut, Kentucky, Maryland, Massachusetts, Missouri, New Jersey, Rhode Island, Tennessee, Texas, Utah, and Wisconsin.

TABLE 10. - WASHED AND UNWASHED COAL USED IN MANUFACTURING COKE IN THE UNITED STATES IN 1945, BY STATES IN WHICH USED, IN NET TONS

State	Byproduct				Beehive		
	Bituminous		Anthracite	Total	Bituminous		
	Washed	Unwashed			Washed	Unwashed	Total
Alabama	7,374,386	167,044	....	7,541,430	....	....	....
California	392,231	47,266	....	439,497	....	....	....
Colorado	980,460	....	....	980,460	111,884	....	111,884
Illinois	1,127,070	4,037,742	33,048	5,197,860	....	....	....
Indiana	29,202	10,604,854	....	10,634,056	....	....	....
Maryland	....	2,767,471	....	2,767,471	....	....	....
Massachusetts	....	1,622,328	....	1,622,328	....	....	....
Michigan	233,511	3,593,209	102,202	3,928,922	....	....	....
Minnesota	....	1,157,426	....	1,157,426	....	....	....
New Jersey	....	1,801,096	....	1,801,096	....	....	....
New York	830,742	7,345,376	48,243	8,224,361	....	....	....
Ohio	3,245,699	9,949,738	3,979	13,199,416	....	....	....
Pennsylvania	8,640,198	12,999,187	110,789	21,750,174	1,001,995	6,109,406	7,111,401
Tennessee	229,533	89,263	....	318,796	....	....	....
Texas	192,956	8,702	....	201,658	....	....	....
Utah	....	1,275,656	....	1,275,656	....	7,945	7,945
Virginia	....	....	....	....	....	325,184	325,184
West Virginia	1,287,347	2,220,822	4,987	3,513,156	....	459,550	459,550
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin	....	2,963,648	19,353	2,983,001	....	118,665	118,665
	24,563,335	62,650,828	322,601	87,536,764	1,113,879	7,020,750	8,134,629
At merchant plants	1,515,898	17,159,304	69,084	18,744,286	....	....	....
At furnace plants	23,047,437	45,491,524	253,517	68,792,478	....	....	....

TABLE 11. - COAL CONSUMED IN COKE OVENS IN THE UNITED STATES, 1937 AND 1944-45, BY MONTHS, IN NET TONS

Month	1937			1944			1945		
	Byproduct	Beehive	Total	Byproduct	Beehive	Total	Byproduct	Beehive	Total
January	6,198,700	426,600	6,625,300	7,969,300	1,064,400	9,033,700	7,913,800	717,600	8,631,400
February	5,679,900	458,500	6,138,400	7,534,000	1,006,500	8,540,500	7,196,200	711,600	7,907,800
March	6,387,000	556,800	6,943,800	8,071,100	1,041,400	9,112,500	8,045,700	832,300	8,878,000
April	6,183,800	480,800	6,664,600	7,885,500	957,000	8,842,500	7,447,800	591,000	8,038,800
May	6,368,500	509,700	6,878,200	8,089,000	1,001,600	9,090,600	7,858,800	871,300	8,730,100
June	5,729,200	430,500	6,159,700	7,728,600	954,000	8,682,600	7,335,200	873,500	8,208,700
July	6,217,200	441,700	6,658,900	7,949,100	940,000	8,889,100	7,687,400	856,700	8,544,100
August	6,425,800	401,100	6,826,900	7,960,200	891,400	8,851,600	7,176,900	711,200	7,888,100
September	6,220,700	392,800	6,613,500	7,588,400	800,900	8,389,300	7,123,600	466,800	7,590,400
October	5,664,800	351,600	6,016,400	7,966,800	817,700	8,784,500	5,616,500	313,700	5,930,200
November	4,527,000	264,000	4,791,000	7,730,600	754,600	8,485,200	6,795,400	574,400	7,369,800
December	3,972,800	212,700	4,185,500	7,965,300	628,900	8,594,200	7,339,500	614,500	7,954,000
	69,575,400	4,926,800	74,502,200	94,437,900	10,858,400	105,296,300	87,536,800	8,134,600	95,671,400

TABLE 12. - COAL PURCHASED FOR MANUFACTURING BYPRODUCT COKE IN THE UNITED STATES IN 1945, BY FIELDS OF ORIGIN, IN NET TONS

State and district where coal was produced	Total purchased	States where coal was consumed - in order of importance
Alabama	7,433,968	Alabama.
Arkansas	55,201	California, Colorado, Illinois, and Utah.
Colorado	820,131	Colorado and Utah.
Illinois	283,022	Illinois and Minnesota.
Indiana	81,378	Illinois, Wisconsin, and Indiana.
Kentucky:		
Elkhorn	3,798,872	Indiana, Ohio, Illinois, New York, New Jersey, Pennsylvania, Michigan, Minnesota, Massachusetts, Wisconsin, and Kentucky.
Harlan	5,211,185	Indiana, Ohio, Illinois, Minnesota, Pennsylvania, Tennessee, and New York.
Kenova-Thacker	1,713,068	Michigan, Ohio, Wisconsin, Pennsylvania, New York, and Connecticut.
Miscellaneous	498,251	Illinois.
New Mexico	292,727	Colorado.
Oklahoma	191,569	Texas.
Pennsylvania:		
Anthracite	330,809	Michigan, Pennsylvania, New York, Illinois, Missouri, West Virginia, and Wisconsin.
Butler-Mercer	9,223	Ohio and Illinois.
Central Pennsylvania:		
High-volatile	840,462	New York.
Medium-volatile	814,573	New York, Maryland, and Pennsylvania.
Low-volatile	2,648,735	Pennsylvania, Ohio, and New York.
Connellsville	13,488,583	Pennsylvania, Ohio, West Virginia, Illinois, New York, Indiana, Minnesota, Connecticut, and New Jersey.
Freeport	2,087,557	Ohio, West Virginia, Michigan, Pennsylvania, and New York.
Pittsburgh	10,440,780	Pennsylvania, New York, Ohio, Michigan, Wisconsin, and Indiana.
Somerset	464,095	Pennsylvania, West Virginia, and New York.
Westmoreland	1,343,146	Pennsylvania, Maryland, Ohio, and New Jersey.
Tennessee	213,081	Tennessee and Ohio.
Utah	1,651,124	Utah and California.
Virginia:		
Pocahontas	913,117	Indiana, New York, and Tennessee.
Southwestern	948,957	Michigan, Ohio, New Jersey, New York, Massachusetts, Indiana, Connecticut, and Pennsylvania.
West Virginia:		
Coal and Coke	7,690	Pennsylvania.
Coal River	543	Ohio.
Kanawha	6,381,605	Ohio, Illinois, Kentucky, West Virginia, Massachusetts Indiana, Wisconsin, New Jersey, Connecticut, Pennsylvania, Missouri, Minnesota, Rhode Island, Michigan, New York, and Maryland.
Kenova-Thacker	145,141	Massachusetts, Ohio, Connecticut, and New York.
Logan	3,025,625	Ohio, Indiana, New Jersey, Michigan, Pennsylvania, New York, Massachusetts, Connecticut, Illinois, and Minnesota.
New River:		
High-volatile	983,839	New York, New Jersey, Illinois, Michigan, and Pennsylvania.
Medium-volatile	901,720	Maryland, Massachusetts, Ohio, Michigan, and New York.
Low-volatile	201,561	Rhode Island, Massachusetts, and Minnesota.
Northern	4,586,738	Maryland, Pennsylvania, West Virginia, Michigan, New York, Ohio, and Illinois.
Pocahontas	11,841,094	Indiana, Ohio, Illinois, Michigan, New York, Maryland, Pennsylvania, Minnesota, Wisconsin, Kentucky, Connecticut, Alabama, Missouri, Rhode Island, and West Virginia.
Tug River	39,447	New York and Rhode Island.
Webster-Gauley	1,290,605	Pennsylvania, New York, Ohio, Maryland, Massachusetts, Wisconsin, New Jersey, and Connecticut.
Winding Gulf	1,148,952	New Jersey, Massachusetts, New York, Michigan, Rhode Island, West Virginia, Illinois, Pennsylvania, and Kentucky.
	87,128,174	

TABLE 13. - COAL PURCHASED FOR MANUFACTURING BYPRODUCT COKE IN THE UNITED STATES IN 1945, BY STATES WHERE PRODUCED AND WHERE CONSUMED AND BY MERCHANT AND FURNACE PLANTS, IN NET TONS

State where coal was consumed	Coal produced in -													
	Alabama	Arkansas	Colorado	Illinois	Indiana	Kentucky	New Mexico	Oklahoma	Pennsylvania	Tennessee	Utah	Virginia	West Virginia	Total
Alabama:														
Merchant plants	1,066,337	......	......	......	......	......	......	......	......	......	......	......	121,021	1,187,358
Furnace plants	6,367,631	......	......	......	......	......	......	......	......	......	......	......	8,243	6,375,874
Total Alabama	7,433,968	......	......	......	......	......	......	......	......	......	......	......	129,264	7,563,232
California:														
Furnace plant	......	44,673	......	......	......	......	......	......	......	......	379,562	......	......	424,235
Colorado:														
Furnace plant	......	7,958	820,087	......	......	......	292,727	......	......	......	......	......	......	1,120,772
Illinois:														
Merchant plants	......	......	......	6,000	......	59,231	......	......	23,891	......	......	......	757,346	846,468
Furnace plants	......	2,401	......	240,304	50,990	1,732,602	......	......	413,655	......	......	......	1,960,685	4,400,637
Total Illinois	......	2,401	......	246,304	50,990	1,791,833	......	......	437,546	......	......	......	2,718,031	5,247,105
Indiana:														
Merchant plants	......	......	......	......	......	......	......	......	......	......	......	69,977	801,354	871,331
Furnace plants	......	......	......	......	15,027	4,746,706	......	......	50,933	......	......	806,576	3,977,111	9,596,353
Total Indiana	......	......	......	......	15,027	4,746,706	......	......	50,933	......	......	876,553	4,778,465	10,467,684
Maryland:														
Furnace plant	......	......	......	......	......	......	......	......	114,932	......	......	......	2,487,415	2,602,347
Massachusetts:														
Merchant plants	......	......	......	......	......	21,217	......	......	......	......	......	118,867	1,478,637	1,618,721
Michigan:														
Merchant plants	......	......	......	......	......	......	......	......	267,219	......	......	187,281	564,308	1,018,808
Furnace plants	......	......	......	......	......	1,353,080	......	......	298,646	......	......	96,385	1,105,129	2,853,240
Total Michigan	......	......	......	......	......	1,353,080	......	......	565,865	......	......	283,666	1,669,437	3,872,048
Minnesota:														
Merchant plant	......	......	......	36,718	......	65,629	......	......	......	......	......	......	312,868	415,215
Furnace plants	......	......	......	......	......	401,853	......	......	26,467	......	......	......	260,606	688,926
Total Minnesota	......	......	......	36,718	......	467,482	......	......	26,467	......	......	......	573,474	1,104,141
New Jersey:														
Merchant plants	......	......	......	......	......	138,225	......	......	7,518	......	......	169,214	1,389,549	1,704,506
New York:														
Merchant plants	......	......	......	......	......	361,229	......	......	1,735,206	......	......	124,230	1,811,470	4,032,135
Furnace plants	......	......	......	......	......	32,098	......	......	3,156,191	......	......	83,299	781,801	4,053,389
Total New York	......	......	......	......	......	393,327	......	......	4,891,397	......	......	207,529	2,593,271	8,085,524
Ohio:														
Merchant plants	......	......	......	......	......	90,314	......	......	......	......	......	170,055	1,368,801	1,629,170
Furnace plants	......	......	......	......	......	1,791,683	......	......	5,365,970	6,980	......	......	4,300,146	11,464,779
Total Ohio	......	......	......	......	......	1,881,997	......	......	5,365,970	6,980	......	170,055	5,668,947	13,093,949
Pennsylvania:														
Merchant plants	......	......	......	......	......	......	......	......	108,031	......	......	......	732,660	840,691
Furnace plants	......	......	......	......	......	219,504	......	......	18,588,504	......	......	980	2,350,378	21,159,366
Total Pennsylvania	......	......	......	......	......	219,504	......	......	18,696,535	......	......	980	3,083,038	22,000,057
Tennessee:														
Furnace plant	......	......	......	......	......	90,261	......	......	......	206,101	......	28,602	......	324,964
Texas:														
Furnace plant	......	......	......	......	......	......	......	191,569	......	......	......	......	......	191,569
Utah:														
Furnace plants	......	169	44	......	......	......	......	......	......	......	1,271,562	......	......	1,271,775
West Virginia:														
Merchant plants	......	......	......	......	......	......	......	......	5,807	......	......	......	1,286,290	1,292,097
Furnace plants	......	......	......	......	......	......	......	......	2,250,336	......	......	......	1,355	2,251,691
Total West Virginia	......	......	......	......	......	......	......	......	2,256,143	......	......	......	1,287,645	3,543,788
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin:														
Merchant plants	......	......	......	......	15,361	117,744	......	......	54,657	......	......	6,608	2,697,387	2,891,757
	7,433,968	55,201	820,131	283,022	81,378	11,221,376	292,727	191,569	32,467,963	213,081	1,651,124	1,862,074	30,554,560	87,128,174
At merchant plants	1,066,337	......	......	42,718	15,361	853,589	......	......	2,202,329	......	......	846,232	13,321,691	18,348,257
At furnace plants	6,367,631	55,201	820,131	240,304	66,017	10,367,787	292,727	191,569	30,265,634	213,081	1,651,124	1,015,842	17,232,869	68,779,917

TABLE 14. - COAL PURCHASED FOR MANUFACTURING BYPRODUCT COKE IN THE UNITED STATES IN 1945, BY STATES WHERE CONSUMED AND BY VOLATILE CONTENT 1/

State where coal was consumed	Low-volatile		Medium-volatile		High-volatile		Total coal purchased (net tons)
	Net tons	Percent of total	Net tons	Percent of total	Net tons	Percent of total	
Alabama:							
Merchant plants	121,021	10.2	618,092	52.0	448,245	37.8	1,187,358
Furnace plants	8,243	.1	6,058,143	95.0	309,488	4.9	6,375,874
Total Alabama	129,264	1.7	6,676,235	88.3	757,733	10.0	7,563,232
California:							
Furnace plant	44,673	10.5	....	......	379,562	89.5	424,235
Colorado:							
Furnace plant	7,958	.7	706,533	63.0	406,281	36.3	1,120,772
Illinois:							
Merchant plants	271,382	32.1	367,468	43.4	207,618	24.5	846,468
Furnace plants	1,465,802	33.3	4,598	.1	2,930,237	66.6	4,400,637
Total Illinois	1,737,184	33.1	372,066	7.1	3,137,855	59.8	5,247,105
Indiana:							
Merchant plants	350,619	40.2	103,687	11.9	417,025	47.9	871,331
Furnace plants	4,137,014	43.1	....	......	5,459,339	56.9	9,596,353
Total Indiana	4,487,633	42.9	103,687	1.0	5,876,364	56.1	10,467,684
Maryland:							
Furnace plant	480,779	18.5	447,891	17.2	1,673,677	64.3	2,602,347
Massachusetts:							
Merchant plants	325,429	20.1	350,886	21.7	942,406	58.2	1,618,721
Michigan:							
Merchant plants	344,786	33.8	78,571	7.7	595,451	58.5	1,018,808
Furnace plants	563,971	19.8	....	......	2,289,269	80.2	2,853,240
Total Michigan	908,757	23.5	78,571	2.0	2,884,720	74.5	3,872,048
Minnesota:							
Merchant plant	102,921	24.8	19,066	4.6	293,228	70.6	415,215
Furnace plants	260,606	37.8	....	......	428,320	62.2	688,926
Total Minnesota	363,527	32.9	19,066	1.7	721,548	65.4	1,104,141
New Jersey:							
Merchant plants	363,285	21.3	586,849	34.4	754,372	44.3	1,704,506
New York:							
Merchant plants	460,805	11.4	380,653	9.5	3,190,677	79.1	4,032,135
Furnace plants	778,120	19.2	791,362	19.5	2,483,907	61.3	4,053,389
Total New York	1,238,925	15.3	1,172,015	14.5	5,674,584	70.2	8,085,524
Ohio:							
Merchant plants	550,543	33.8	136,338	8.4	942,289	57.8	1,629,170
Furnace plants	3,101,003	27.1	552,548	4.8	7,811,228	68.1	11,464,779
Total Ohio	3,651,546	27.9	688,886	5.3	8,753,517	66.8	13,093,949
Pennsylvania:							
Merchant plants	118,282	14.1	359,331	42.7	363,078	43.2	840,691
Furnace plants	2,791,081	13.2	264,673	1.3	18,103,612	85.5	21,159,366
Total Pennsylvania	2,909,363	13.2	624,004	2.8	18,466,690	84.0	22,000,057
Tennessee:							
Furnace plant	28,602	8.8	206,101	63.4	90,261	27.8	324,964
Texas:							
Furnace plant	8,638	4.5	47,707	24.9	135,224	70.6	191,569
Utah:							
Furnace plants	213	(2)	....	......	1,271,562	100.0	1,271,775
West Virginia:							
Merchant plants	73,979	5.7	....	......	1,218,118	94.3	1,292,097
Furnace plants	177,335	7.9	....	......	2,074,356	92.1	2,251,691
Total West Virginia	251,314	7.1	....	......	3,292,474	92.9	3,543,788
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin:							
Merchant plants	758,036	26.2	196,647	6.8	1,937,074	67.0	2,891,757
	17,695,126	20.3	12,277,144	14.1	57,155,904	65.6	87,128,174
At merchant plants	3,841,088	20.9	3,197,588	17.4	11,309,581	61.7	18,348,257
At furnace plants	13,854,038	20.1	9,079,556	13.2	45,846,323	66.7	68,779,917

1/ Low-volatile - dry V. M. 22 percent or less and more than 14 percent; medium-volatile - dry V. M. 31 percent or less and more than 22 percent; high-volatile - dry V. M. more than 31 percent. 2/ Less than 0.1 percent.

TABLE 15. - COKE OVENS COMPLETED AND ABANDONED IN THE UNITED STATES IN 1945 AND TOTAL NUMBER IN EXISTENCE AT END OF YEAR, BY STATES

State	Plants in existence Dec. 31	Ovens						
		In existence Dec. 31		New		Abandoned during year	Under construction Dec. 31	
		Number	Annual capacity (net tons of coke)	Number	Annual capacity (net tons of coke)		Number	Annual capacity (net tons of coke)
Byproduct:								
Alabama	8	1/1,490	6,635,200	....	....	.....	....	....
California	1	90	340,000	....	....	.....	....	....
Colorado	1	188	813,000	....	....	.....	2/74	327,000
Connecticut	1	70	(3)	....	....	.....	....	....
Illinois	9	882	4,004,500	....	....	110	....	....
Indiana	5	1,816	9,197,800	....	....	40	47	144,000
Kentucky	1	120	(3)	....	....	.....	....	....
Maryland	1	422	2,124,000	....	....	.....	....	....
Massachusetts	2	215	1,289,800	....	....	.....	....	....
Michigan	4	4/568	2,912,600	....	....	18	....	....
Minnesota	3	196	985,600	....	....	.....	....	....
Missouri	1	64	(3)	....	....	.....	....	....
New Jersey	2	280	1,327,000	....	....	8	37	143,000
New York	8	1,142	6,236,000	....	....	.....	....	....
Ohio	15	2,099	10,228,300	....	....	.....	177	800,000
Pennsylvania	13	3,625	18,171,200	106	708,000	.....	....	....
Rhode Island	1	65	(3)	....	....	.....	....	....
Tennessee	1	44	242,000	....	....	.....	....	....
Texas	2	5/125	706,000	....	....	.....	....	....
Utah	2	308	1,202,800	....	....	.....	....	....
West Virginia	5	6/506	2,682,500	....	....	.....	....	....
Wisconsin	2	195	(3)	....	....	.....	....	....
Undistributed	....	......	2,300,800	....	....	.....	....	....
	88	14,510	71,399,100	106	708,000	176	335	1,414,000
At merchant plants	34	3,234	14,679,600	....	....	66	84	287,000
At furnace plants	54	11,276	56,719,500	106	708,000	110	251	1,127,000
Beehive:								
Colorado	1	160	80,000	....	....	100	....	....
Kentucky	1	191	172,000	....	....	9	....	....
Pennsylvania	50	9,969	6,901,350	52	28,600	3,400	....	....
Tennessee	....	......	....	....	....	240	....	....
Utah	1	297	147,000	....	....	500	....	....
Virginia	5	749	382,800	....	....	4	....	....
West Virginia	6	813	411,700	....	....	252	....	....
	64	12,179	8,094,850	52	28,600	4,505	....	....

1/ 240 ovens idle entire year. 2/ Completed but idle. 3/ Included under "Undistributed." 4/ 18 ovens abandoned in August. 5/ 78 ovens idle entire year and 47 ovens idle since October. 6/ 74 ovens idle since August 15.

TABLE 16. - RELATIONSHIP OF PRODUCTION TO POTENTIAL MAXIMUM CAPACITY 1/ AT BYPRODUCT-COKE PLANTS IN THE UNITED STATES, 1937 AND 1942-45, BY MONTHS, IN PERCENT

Month	1937	1942	1943	1944	1945
January	83.0	94.3	98.7	95.8	89.1
February	83.5	94.2	98.8	96.6	89.6
March	84.9	94.3	98.0	95.7	90.2
April	84.9	94.3	98.0	96.2	86.3
May	84.6	98.1	96.4	95.5	88.4
June	78.6	98.3	92.6	94.3	85.3
July	83.2	97.6	93.3	91.5	88.3
August	86.0	98.0	96.3	91.1	82.4
September	86.1	98.4	96.7	89.8	84.0
October	76.0	98.4	94.7	91.1	64.1
November	62.8	98.9	90.7	90.8	80.5
December	53.1	98.4	94.2	89.7	83.2
The year	78.8	96.9	95.7	93.1	84.3

1/ Capacity of all ovens in existence, whether active or idle, based upon maximum daily capacity times days in month.

TABLE 17. - COKE AND COKING COAL CONSUMED PER NET TON OF PIG IRON MADE IN THE UNITED STATES, 1913, 1918, 1937, AND 1943-45

Year	Coke per net ton of pig iron and ferro-alloys 1/ (pounds)	Yield of coke from coal (percent)	Coking coal per net ton of pig iron and ferro-alloys (pounds calculated)
1913	2,172.6	66.9	3,247.5
1918	2,120.7	66.4	3,193.8
1937	1,830.6	70.3	2,604.0
1943	1,834.3	70.0	2,620.4
1944	1,840.6	70.3	2,618.2
1945	1,870.0	70.4	2,656.3

1/ From Report of American Iron and Steel Institute; consumption per ton of pig iron only, excluding furnaces making ferro-alloys, was 2,172.6 pounds in 1913, 2,120.7 in 1918, 1,806.7 in 1937, 1,800.6 in 1943, 1,809.8 in 1944, and 1,840.0 in 1945.

TABLE 18. - BYPRODUCT COKE PRODUCED AND SOLD OR USED BY PRODUCER IN THE UNITED STATES IN 1945, BY STATES

(Exclusive of screenings or breeze)

State	Produced		Used by producer -				Sold	
			In blast furnaces		For other purposes 1/		Furnace 2/	
	Net tons	Value	Net tons	Value	Net tons	Value	Net tons	Value
Alabama	5,400,925	$33,448,229	4,319,575	$24,771,710	16,605	(3)	36,468	$232,894
California	256,092	(3)	260,996	(3)	1,112	(3)	....	....
Colorado	639,099	(3)	605,458	(3)	9,828	(3)	....	....
Illinois	3,681,516	32,377,629	1,644,644	13,417,966	97,187	$748,828	1,217,922	10,558,484
Indiana	7,814,247	68,458,007	5,322,778	46,753,353	101,822	746,738	1,546,329	13,377,998
Maryland	2,024,609	(3)	2,058,067	(3)	726	(3)	....	....
Massachusetts	1,149,448	(3)	....	....	136,291	(3)	....	....
Michigan	2,805,970	24,119,361	1,218,449	(3)	143,552	1,116,496	133,012	(3)
Minnesota	825,620	7,760,362	403,325	(3)	8,945	55,178	....	....
New Jersey	1,284,020	(3)	....	....	197,874	(3)	17,491	(3)
New York	5,789,974	46,676,238	1,595,602	(3)	989,996	6,889,210	1,508,095	11,054,919
Ohio	9,405,710	70,381,885	7,027,506	51,838,288	98,552	911,567	940,454	6,987,669
Pennsylvania	15,255,137	98,161,908	7,615,815	54,882,044	139,937	1,018,624	6,361,968	33,343,138
Tennessee	236,979	(3)	116,561	(3)	....	....	....	....
Texas	140,254	(3)	132,537	(3)	....	....	....	....
Utah	731,306	(3)	612,190	(3)	1,741	(3)	....	....
West Virginia	2,462,477	11,939,470	1,432,331	(3)	660,951	3,776,553	213,431	(3)
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin .	2,190,905	19,840,493	....	....	198,617	1,616,822	569,618	3,420,696
Undistributed	....	57,026,757	....	65,066,612	....	2,688,936	....	2,438,333
Total, 1945	62,094,288	470,190,339	34,365,834	256,729,973	2,803,736	19,568,952	12,544,788	81,414,131
Merchant plants .	13,399,116	118,229,418	....	....	2,577,084	17,863,645	1,572,986	12,044,595
Furnace plants ..	48,695,172	351,960,921	34,365,834	256,729,973	226,652	1,705,307	10,971,802	69,369,536
Total, 1944	67,064,795	478,844,172	37,753,934	262,966,060	2,934,769	18,824,163	13,916,855	86,572,409

State	Sold - Continued							
	Foundry 4/		Domestic		Industrial and other (including water gas) 5/		Total	
	Net tons	Value	Net tons	Value	Net tons	Value	Net tons	Value
Alabama	321,919	$3,094,017	162,963	$978,441	498,570	$4,014,164	1,019,920	$8,319,516
California	964	(3)	7,747	(3)	1,161	(3)	9,872	(3)
Colorado	1,006	(3)	....	....	20,722	(3)	21,728	(3)
Illinois	314,448	3,814,517	356,373	3,414,817	84,352	730,780	1,973,095	18,518,598
Indiana	337,079	3,915,325	360,280	2,378,008	92,343	794,832	2,336,031	20,466,163
Maryland	....	....	....	....	....	....	....	....
Massachusetts	63,526	(3)	835,113	(3)	114,979	(3)	1,013,618	(3)
Michigan	390,447	(3)	637,525	5,479,809	270,393	2,405,456	1,431,377	13,660,481
Minnesota	10,610	(3)	306,053	3,267,206	75,076	(3)	391,739	4,154,808
New Jersey	46,341	(3)	567,142	(3)	442,881	(3)	1,073,855	(3)
New York	....	....	1,334,078	11,209,095	420,179	3,391,503	3,262,352	25,655,517
Ohio	242,166	2,705,425	352,867	2,462,184	694,208	5,106,741	2,229,695	17,262,019
Pennsylvania	227,996	2,592,675	724,432	4,745,182	264,000	2,128,831	7,578,396	42,809,826
Tennessee	41,714	(3)	1,007	(3)	81,264	(3)	123,985	(3)
Texas	....	....	....	....	8,708	(3)	8,708	(3)
Utah	....	....	2,590	(3)	57,229	(3)	59,819	(3)
West Virginia	67,911	(3)	21,494	120,393	67,565	(3)	370,401	2,286,876
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin	271,906	3,473,026	904,862	9,072,903	285,631	2,712,052	2,032,017	18,678,677
Undistributed	....	7,238,661	....	13,996,291	....	7,359,325	....	22,203,309
Total, 1945	2,338,033	26,833,646	6,574,526	57,124,329	3,479,261	28,643,684	24,936,608	194,015,790
Merchant plants	1,743,106	20,115,608	4,829,936	45,861,215	2,742,541	23,038,343	10,888,569	101,059,761
Furnace plants .	594,927	6,718,038	1,744,590	11,263,114	736,720	5,605,341	14,048,039	92,956,029
Total, 1944	6/2,233,808	6/24,627,226	6,443,329	55,575,253	6/3,437,438	6/27,383,631	26,031,430	194,158,519

1/ Comprises 43,936 tons valued at $384,697 used in foundries; 807,926 tons, $5,598,986 used to make producer gas; 1,625,879 tons, $10,998,464 to make water gas; and 325,995 tons, $2,586,805 used for other purposes. 2/ Includes 10,518,776 tons valued at $65,476,552 sold to financially affiliated plants. 3/ Included under "Undistributed." 4/ Includes 3,206 tons valued at $19,539 sold to financially affiliated plants. 5/ Includes 380,977 tons valued at $2,994,546 for manufacture of water gas and 169,269 tons, $1,204,260 for other industrial use sold to financially affiliated plants; and 1,076,144 tons, $8,927,407 for manufacture of water gas sold to other consumers. 6/ Revised figure.

TABLE 19. - BEEHIVE COKE PRODUCED AND SOLD OR USED BY PRODUCER IN THE UNITED STATES IN 1945, BY STATES

State	Produced		Used by producer -				Sold	
			In blast furnaces		For other purposes		Furnace 1/	
	Net tons	Value	Net tons	Value	Net tons	Value	Net tons	Value
Colorado	72,678	(2)	....	....	72,553	(2)	....	....
Kentucky	74,404	(2)	....	....	......	....	41,966	(2)
Pennsylvania	4,583,720	$33,233,516	240,547	$1,884,251	3,850	$29,304	3,612,053	$25,827,068
Utah	4,205	(2)	....	....	......	....	2,481	(2)
Virginia	191,032	1,541,650	....	....	......	....	49,734	390,095
West Virginia	287,854	2,228,115	....	....	32	(2)	145,518	1,054,376
Undistributed	....	1,346,422	....	....	......	689,672	....	359,288
Total: 1945	5,213,893	38,349,703	240,547	1,884,251	76,435	718,976	3,851,752	27,630,827
1944	6,973,022	49,077,334	674,055	4,957,103	88,800	817,804	5,136,509	35,289,195

State	Sold - Continued							
	Foundry		Domestic		Industrial and other (including water gas) 3/		Total	
	Net tons	Value	Net tons	Value	Net tons	Value	Net tons	Value
Colorado	293	(2)	....	....	77	(2)	370	(2)
Kentucky	....	....	....	....	32,438	(2)	74,404	(2)
Pennsylvania	192,345	$1,577,564	168,259	$1,228,014	398,305	$2,937,080	4,370,962	$31,569,726
Utah	235	(2)	....	....	1,387	(2)	4,103	(2)
Virginia	26,127	232,501	3,621	24,688	111,033	890,483	190,515	1,537,767
West Virginia	35,762	340,547	29,102	208,700	78,817	634,150	289,199	2,237,773
Undistributed	....	5,306	....	....	....	293,579	....	658,173
Total: 1945	254,762	2,155,918	200,982	1,461,402	622,057	4,755,292	4,929,553	36,003,439
1944	231,175	1,936,046	274,214	1,910,675	563,926	4,125,968	6,205,824	43,261,884

1/ Includes 1,725,385 tons valued at $11,942,926 sold to financially affiliated plants for blast furnace use. 2/ Included under "Undistributed." 3/ Includes 459 tons valued at $3,833 sold to financially affiliated plants for other industrial use and 187,697 tons, $1,440,222 for manufacture of water gas sold to other consumers.

TABLE 20. - STOCKS OF FURNACE, FOUNDRY, AND DOMESTIC COKE AND OF BREEZE IN THE UNITED STATES ON JANUARY 1, 1946, BY STATES, IN NET TONS

State	Coke				Breeze
	Furnace	Foundry	Domestic and other	Total	
Byproduct:					
Alabama	106,088	5,590	11,268	122,946	23,615
California	13,822	45	....	13,867	35,303
Colorado	3,795	......	....	3,795	4,871
Illinois	10,543	968	17,950	29,461	109,289
Indiana	72,025	3,756	31,042	106,823	170,867
Maryland	9,283	......	....	9,283	209,287
Massachusetts	....	53	101,352	101,405	9,950
Michigan	4,064	696	4,063	8,823	35,770
Minnesota	1,433	1,380	35,919	38,732	39,238
New Jersey	....	......	21,237	21,237	13,916
New York	32,708	36	120,016	152,760	61,492
Ohio	76,643	9,651	10,903	97,197	113,560
Pennsylvania	64,378	231	17,044	81,653	97,958
Tennessee	1,521	1,177	2,182	4,880	6,970
Texas	....	......	580	580	2,536
Utah	10,901	......	34,613	45,514	46,953
West Virginia	8,046	420	18,316	26,782	22,757
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin	10,188	506	50,567	61,261	18,229
	425,438	24,509	477,052	926,999	1,022,561
At merchant plants	16,450	21,313	390,401	428,164	169,376
At furnace plants	408,988	3,196	86,651	498,835	853,185
Beehive:					
Colorado	....	......	....	....	....
Kentucky	....	......	....	....	....
Pennsylvania	1,448	131	1,824	3,403	....
Utah	182	......	....	182	....
Virginia	825	126	245	1,196	20
West Virginia	....	13	20	33	....
	2,455	270	2,089	4,814	20

TABLE 21. - STOCKS OF BITUMINOUS COAL AT BYPRODUCT COKE PLANTS IN THE UNITED STATES AT THE END OF EACH MONTH, 1937 AND 1942-45

Month	1937	1942	1943	1944	1945
January	8,030,871	8,178,962	9,952,627	6,137,165	5,694,501
February	8,687,389	7,888,481	9,778,403	6,382,553	5,610,111
March	9,638,317	7,881,459	9,850,617	6,280,880	5,452,042
April	8,543,774	8,408,907	9,732,267	5,929,623	4,456,204
May	8,187,883	9,179,025	9,219,153	5,891,893	4,428,452
June	7,770,256	9,866,281	7,142,587	6,127,041	5,128,071
July	7,432,741	9,922,306	6,818,746	5,708,408	4,752,624
August	7,455,932	10,238,114	6,811,435	5,927,586	4,502,647
September	7,760,533	10,565,801	6,590,622	6,173,834	4,624,488
October	8,066,938	10,997,933	6,657,479	6,396,922	3,665,833
November	8,114,094	11,150,840	5,819,664	6,737,442	4,607,047
December	7,273,403	10,721,414	6,305,514	6,111,538	4,873,546

COKE-OVEN BYPRODUCTS

In the United States high-temperature carbonization of bituminous coal in byproduct ovens is one of the principal processes for the recovery of raw materials for the organic chemical industry. Developments in recent years in the fields of plastics, synthetic rubber, explosives, dyes, pharmaceutical preparations, and synthetic drugs have emphasized the key importance of benzol, toluol, xylol, naphthalene, phenol, cresylic acid, pyridine, and other chemicals derived from coal carbonization. Although the recovery of the valuable byproducts represent, to coke plant operators, a source of additional revenue and a means of reducing to a minimum, conversion costs of coal to coke, the cost of the byproducts cannot be ascertained with any degree of accuracy and in practice, the revenue derived from them is treated as a deduction from the cost of the main product. It is of interest to note that although coal and manufacturing costs have increased during the war period, prices of the various chemicals have not increased and the values per ton of coke produced have remained relatively stable. For this reason the total value of byproducts sold (excluding breeze) which was equivalent to 50 percent of the value of coke produced in 1941 has declined steadily and in 1945 amounted to less than 37 percent. In general, as the recovery of the chemical raw materials necessarily accompany the production of the main product, the decline in coke production in 1945 substantially reduced the output of all the principal byproducts.

TABLE 22. - BYPRODUCTS OBTAINED FROM COKE-OVEN OPERATIONS IN THE UNITED STATES IN 1945 1/
(Exclusive of screenings or breeze)

Product	Production	Sales			On hand December 31
		Quantity	Value		
			Total	Average	
Tar .... gallons ..	696,307,311	410,499,324	$21,827,890	$0.053	30,859,495
Tar derivatives:					
Creosote oil, distillate as such ...... do ..	25,014,189	24,904,234	3,090,841	.124	425,328
Creosote oil in coal tar solution ..... do ..	11,816,960	10,029,104	1,232,503	.123	563,292
Tar acid oil .... do ..	13,800,408	13,657,097	1,563,578	.114	747,662
Pitch of tar:					
Soft 2/ .... net tons ..	330,868	8,545	93,293	10.918	10,870
Hard 3/ .... do ..	255,772	....	....	......	499
Other tar derivatives 4/	....	....	1,819,670	......	....
Ammonia:					
Sulfate .... pounds ..	1,528,585,257	1,602,123,800	20,534,078	.013	64,350,762
Liquor (NH_3 content) .... do ..	55,213,124	51,439,125	1,556,101	.030	1,907,665
	....	....	22,090,179	......	....
Sulfate equivalent of all forms .... do ..	1,749,437,753	1,807,880,300	....	......	71,981,422
NH_3 equivalent of all forms .... do ..	437,359,438	451,970,075	....	......	17,995,356
Gas:					
Used under boilers, etc. .... M cubic feet ..	5/904,476,118	32,061,903	3,098,350	.097	....
Used in steel or affiliated plants do ..		324,294,221	36,972,600	.114	....
Distributed through city mains ... do ..		166,178,374	43,532,085	.262	....
Sold for industrial use .... do ..		31,718,913	4,141,987	.131	....
	5/904,476,118	554,253,411	87,745,022	.158	....
Light oil and derivatives:					
Crude light oil .... gallons ..	6/245,687,253	18,118,822	1,561,237	.086	4,187,551
Benzol:					
Motor .... do ..	28,788,072	26,044,426	2,236,654	.086	2,851,235
All other grades .... do ..	126,670,542	122,220,804	15,932,039	.130	6,815,434
Toluol, crude and refined .... do ..	27,069,321	24,980,173	6,568,730	.263	2,384,031
Xylol, crude and refined .... do ..	7,504,115	7,480,952	1,930,195	.258	392,358
Solvent naphtha .... do ..	4,802,748	4,627,715	664,861	.144	316,129
Other light oil products .... do ..	7,834,768	5,921,063	555,016	.094	234,753
	7/202,669,566	209,393,955	29,448,732	.141	....
Naphthalene, crude .... pounds ..	87,677,299	86,936,517	1,806,967	.021	2,733,152
Pyridine:					
Crude .... gallons ..	480,676	429,924	319,361	.743	137,201
Refined .... do ..	105,865	95,677	326,413	3.412	14,445
Picoline .... do ..	61,736	40,863	49,686	1.216	44,391
Sodium phenolate .... do ..	2,576,352	2,580,394	152,974	.059	99,220
Other byproducts 8/	....	....	571,096	......	....
Value of all byproducts sold	....	....	9/172,138,205	......	....

1/ Includes products of tar distillation conducted by coke-oven operators under same corporate name. 2/ Softening point less than 110°F. 3/ Softening point over 160°F. Includes some medium pitch of tar reported by one producer. 4/ Cresylic acid, cresols, phenol, pitch coke, and road tar. 5/ Includes gas used for heating ovens and gas wasted. 6/ Refined on premises to make derived products shown: 234,802,231 gallons. 7/ Total gallons of derived products. 8/ Ammonium thiocyanate, cyanogen sludge, dicyclopentadiene, hexane, phenol from sources other than tar distillation, secondary oil, sodium prussiate, sulfur, and vented vapors. 9/ Exclusive of value of breeze production which was $12,535,373 in 1945.

TABLE 23. - VALUE OF BYPRODUCTS AND OF COKE, INCLUDING BREEZE, PER TON OF COKE PRODUCED IN THE UNITED STATES, 1937 AND 1942-45

Product	1937	1942	1943	1944	1945
Ammonia and its compounds	$0.326	$0.348	$0.355	$0.324	$0.356
Light oil and its derivatives (including naphthalene)	.435	.501	.546	.552	.503
Surplus gas sold or used	1.483	1.426	1.390	1.403	1.413
Tar sold	.375	.388	.385	.327	.352
Miscellaneous products	.066	.177	.178	.167	.148
	2.685	2.840	2.854	2.773	2.772
Tar used, not sold	.127	.085	.078	.131	.095
Breeze produced	.162	.175	.191	.198	.202
	2.974	3.100	3.123	3.102	3.069
Value of coke produced	5.026	6.068	6.654	7.140	7.572
Total value of coke and byproducts	8.000	9.168	9.777	10.242	10.641

TABLE 24. - COKE-OVEN TAR PRODUCED, USED BY PRODUCER, AND SOLD IN THE UNITED STATES IN 1945, BY STATES, IN GALLONS

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State	Produced		Used by producer -			
	Total	Per ton of coal coked	For refining or topping	As fuel under boilers	In open hearth or affiliated plants	Otherwise
Alabama	62,285,739	8.26	2,001,198	296,872	18,544,761	125,051
California	4,604,532	10.48	4,525,521	....	....	....
Colorado	10,265,000	10.47	10,190,936	....	....	....
Illinois	35,546,795	6.84	....	74,137	....	....
Indiana	64,059,230	6.02	15,820,963	....	5,958,837	2,515,299
Maryland	19,598,426	7.08	....	....	1,798,803	1,150
Massachusetts	11,835,624	7.33	....	....	....	....
Michigan	28,734,806	7.31	....	....	1,155,642	29,003
Minnesota	8,096,544	7.00	....	....	2,300,953	16,500
New Jersey	12,267,411	6.81	....	....	....	....
New York	68,007,060	8.27	18,906,904	....	....	24,417
Ohio	93,228,898	7.06	2,124,120	204,112	21,183,447	367,822
Pennsylvania	200,741,617	9.23	125,005,687	....	45,531,583	550,154
Tennessee	2,370,908	7.44	....	....	....	....
Texas	1,683,175	8.35	....	....	....	....
Utah	15,119,262	11.85	....	....	9,059,272	400
West Virginia	36,087,094	10.27	....	....	1,685,540	3,023
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin	21,725,190	7.28	....	....	....	495
Total, 1945	696,307,311	7.95	178,575,329	575,121	107,218,838	3,633,314
At merchant plants	146,388,841	7.81	2,001,198	....	....	42,929
At furnace plants	549,918,470	7.99	176,574,131	575,121	107,218,838	3,590,385
Total, 1944	767,807,171	8.13	200,570,084	862,575	156,735,874	5,165,985

State	Sold -					On hand December 31
	For use as fuel 1/	For refining into tar products	Total			
			Quantity	Value		
				Total	Average	
Alabama	....	42,688,330	42,688,330	$2,332,502	$0.055	1,688,034
California	....	....	....	....	.....	212,748
Colorado	....	160,412	160,412	(2)	(2)	148,201
Illinois	6,456,451	29,178,750	35,635,201	1,891,650	.053	1,737,473
Indiana	4,395,229	35,410,224	39,805,453	2,064,867	.052	3,534,878
Maryland	....	18,046,677	18,046,677	(2)	(2)	1,698,546
Massachusetts	....	11,948,234	11,948,234	(2)	(2)	81,308
Michigan	....	28,769,131	28,769,131	1,457,173	.051	1,345,769
Minnesota	....	5,803,197	5,803,197	328,210	.057	664,557
New Jersey	....	12,522,703	12,522,703	(2)	(2)	512,000
New York	3,962,253	46,021,982	49,984,235	2,718,493	.054	3,063,687
Ohio	10,427,657	59,338,066	69,765,723	3,863,723	.055	4,125,904
Pennsylvania	440,766	28,842,437	29,283,203	1,482,057	.051	9,290,348
Tennessee	....	2,384,501	2,384,501	(2)	(2)	17,424
Texas	....	2,030,508	2,030,508	(2)	(2)	4,000
Utah	101	5,467,720	5,467,821	(2)	(2)	1,178,402
West Virginia	945,580	33,498,803	34,444,383	1,908,329	.055	735,986
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin	....	21,759,612	21,759,612	1,102,518	.051	820,230
Undistributed	....	....	....	2,678,368	.051	....
Total, 1945	26,628,037	383,871,287	410,499,324	21,827,890	.053	30,859,495
At merchant plants	243,789	145,305,862	145,549,651	7,376,696	.051	4,613,747
At furnace plants	26,384,248	238,565,425	264,949,673	14,451,194	.055	26,245,748
Total, 1944	15,851,012	391,338,435	407,189,447	21,897,933	.054	35,043,093

1/ Comprises 4,599,521 gallons of tar sold to affiliated plants and 22,028,516 gallons sold to other purchasers. 2/ Included under "Undistributed."

TABLE 25. - COKE OVEN AMMONIA PRODUCED AND SOLD IN THE UNITED STATES IN 1945, BY STATES, IN POUNDS

State	Active plants	Sulfate equivalent of all forms		Produced as -	
		Quantity	Per ton of coal coked	Sulfate	Liquor (NH_3 content)
Alabama	7	175,135,481	23.22	160,227,205	3,727,069
California	1	12,046,333	27.41	12,046,333	....
Colorado	1	21,857,026	22.29	21,857,026	....
Illinois	9	92,942,349	17.88	88,154,241	1,197,027
Indiana	5	188,636,532	17.74	163,438,144	6,299,597
Maryland	1	59,185,367	21.39	59,185,367	....
Massachusetts	2	27,831,500	17.16	27,194,460	159,260
Michigan	5	82,147,422	20.91	30,229,570	12,979,463
Minnesota	3	20,034,400	17.31	20,034,400	....
New Jersey	2	31,098,979	17.27	31,098,979	....
New York	8	155,933,097	18.96	124,799,525	7,783,393
Ohio	15	251,151,323	19.03	200,057,843	12,773,370
Pennsylvania	13	468,627,293	21.55	465,844,373	695,730
Tennessee	1	7,281,567	22.84	7,281,567	....
Texas	1	5,352,040	26.54	5,352,040	....
Utah	2	32,802,374	25.71	32,802,374	....
West Virginia	3	59,298,655	23.32	59,298,655	....
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin	5	58,076,015	19.73	19,683,155	9,598,215
Total, 1945	84	1,749,437,753	20.22	1,528,585,257	55,213,124
At merchant plants	31	350,299,660	19.75	211,597,728	34,675,483
At furnace plants	53	1,399,138,093	20.34	1,316,987,529	20,537,641
Total, 1944	85	1,889,806,197	20.29	1,536,487,509	63,329,672

State	Sold as -				On hand December 31	
	Sulfate		Liquor (NH_3 content)		Sulfate	Liquor (NH_3 content)
	Quantity	Value	Quantity	Value		
Alabama	162,362,226	$2,221,804	3,672,800	(1)	4,185,122	103,521
California	12,060,300	(1)	....	....	192,033	....
Colorado	22,337,546	(1)	....	....	851,000	....
Illinois	92,636,670	1,159,717	1,295,050	(1)	3,706,314	....
Indiana	166,807,119	2,051,699	6,307,709	$171,288	10,509,474	287,770
Maryland	64,246,940	(1)	....	....	1,498,171	....
Massachusetts	28,643 500	(1)	157,890	(1)	836,260	9,920
Michigan	30,158,710	(1)	10,880,501	(1)	500,800	420,325
Minnesota	19,354,510	233,450	....	....	1,732,872	....
New Jersey	31,981,570	(1)	....	....	386,740	....
New York	135,251,765	1,815,438	7,623,191	236,701	2,790,071	208,239
Ohio	196,886,847	2,408,450	11,348,218	350,912	7,036,097	463,683
Pennsylvania	514,084,388	6,283,420	642,692	(1)	26,832,394	36,688
Tennessee	7,101,400	(1)	....	....	276,193	....
Texas	5,510,904	(1)	....	....	....	....
Utah	33,069,925	(1)	....	....	668,538	....
West Virginia	60,538,735	730,153	....	....	540,755	....
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin	19,090,745	269,416	9,511,074	277,001	1,807,928	377,519
Undistributed	....	3,360,531	....	520,199	....	....
Total, 1945	1,602,123,800	20,534,078	51,439,125	1,556,101	64,350,762	1,907,665
At merchant plants	215,704,335	2,982,124	37,774,470	1,125,818	7,210,067	1,204,235
At furnace plants	1,386,419,465	17,551,954	13,664,655	430,283	57,140,695	703,430
Total, 1944	1,553,923,139	19,828,483	60,008,642	1,914,785	138,061,389	1,697,337

1/ Included under "Undistributed."

TABLE 26. - COKE-OVEN CRUDE LIGHT OIL PRODUCED IN THE UNITED STATES AND DERIVED PRODUCTS OBTAINED AND SOLD IN 1945, BY STATES, IN GALLONS

State	Active plants	Produced		Refined on premises 1/	Derived products obtained and sold			On hand December 31
		Total	Per ton of coal coked		Produced	Sold 2/		
						Quantity	Value	
Alabama	7	21,275,658	2.82	21,087,679	18,381,092	16,859,290	$2,364,901	289,238
California	1	1,477,559	3.36	1,476,253	1,192,074	1,152,931	(3)	11,376
Colorado	1	3,215,085	3.28	3,206,376	3,045,833	2,861,180	(3)	445
Illinois	7	13,081,796	2.65	9,308,959	7,894,653	7,454,874	1,102,446	167,043
Indiana	5	26,912,100	2.53	28,692,803	25,272,245	23,628,984	3,375,649	318,847
Maryland	1	10,995,394	3.97	10,981,180	9,163,307	8,336,047	(3)	76,358
Michigan	4	11,007,280	2.83	5,253,976	4,437,183	4,347,837	(3)	541,848
New York	8	21,353,526	2.60	32,546,675	28,203,554	27,578,026	4,089,353	259,226
Ohio	15	36,633,837	2.78	30,739,880	24,692,936	23,016,395	3,297,345	470,198
Pennsylvania	13	65,619,431	3.02	63,838,220	56,144,730	54,358,209	7,783,507	1,283,894
Tennessee	1	811,885	2.55	809,793	729,791	544,219	(3)	8,515
Texas	1	498,095	2.47	498,095	475,602	500,411	(3)	....
Utah	2	5,516,805	4.32	5,510,586	4,333,120	4,218,050	(3)	171,297
West Virginia	5	12,198,955	3.47	10,564,922	9,947,613	8,054,437	1,273,220	231,299
Connecticut, Kentucky, Massachusetts, Minnesota, Missouri, New Jersey, and Wisconsin .	9	15,089,797	2.20	10,286,834	8,755,833	8,314,243	1,252,456	347,967
Undistributed	....	....	.....	....	....	....	3,348,618	....
Total, 1945	80	245,687,253	2.84	234,802,231	202,669,566	191,275,133	27,887,495	4,187,551
At merchant plants	28	42,316,584	2.35	40,285,849	35,216,206	32,698,414	4,772,420	1,227,811
At furnace plants	52	203,370,669	2.97	194,516,382	167,453,360	158,576,719	23,115,075	2,959,740
Total, 1944	81	267,861,984	2.87	4/258,044,532	222,436,683	215,609,266	33,100,221	3,483,337

1/ Comprises 226,416,224 gallons of crude light oil made on premises and 8,386,007 gallons purchased from other coke-oven plants. 2/ Excludes 18,118,822 gallons of crude light oil valued at $1,561,237 sold as such. 3/ Included under "Undistributed." 4/ Revised figure.

TABLE 27. - COKE-OVEN GAS PRODUCED AND SOLD IN THE UNITED STATES IN 1945, BY STATES, IN M CUBIC FEET

State	Active plants	Produced	Used in heating ovens	Surplus sold or used			Wasted
				Quantity	Value		
					Total	Average	
Alabama	7	79,552,354	36,161,661	41,221,472	$3,957,009	$0.096	2,169,221
California	1	4,809,353	378,523	4,262,893	(1)	(1)	167,937
Colorado	1	11,710,300	5,969,041	5,604,299	(1)	(1)	136,960
Illinois	9	50,637,980	15,554,821	34,456,993	4,983,189	.145	626,166
Indiana	5	109,863,899	48,570,762	58,090,465	10,498,633	.181	3,202,671
Maryland	1	26,123,331	9,094,643	16,525,182	(1)	(1)	503,506
Massachusetts	2	17,471,845	3,131,834	14,299,910	(1)	(1)	40,101
Michigan	5	39,006,690	7,127,919	31,651,178	4,388,742	.139	227,593
Minnesota	3	11,783,764	5,037,238	6,707,956	1,703,508	.254	38,570
New Jersey	2	18,845,533	5,396,364	13,449,169	(1)	(1)	....
New York	8	86,415,834	23,662,378	61,927,500	15,962,824	.258	825,956
Ohio	15	130,253,370	59,393,304	68,753,947	8,770,082	.128	2,106,119
Pennsylvania	13	226,055,874	93,987,886	131,296,276	16,586,744	.126	771,712
Tennessee	1	2,961,525	1,279,644	1,628,946	(1)	(1)	52,935
Texas	1	2,210,790	807,140	1,048,826	(1)	(1)	354,824
Utah	2	15,750,376	4,278,269	10,167,258	(1)	(1)	1,304,849
West Virginia	5	39,335,484	11,502,232	27,657,180	2,429,178	.088	176,072
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin	6	31,687,816	5,794,685	25,503,961	5,799,318	.227	389,170
Undistributed	....	....	....	....	12,665,795	.189	....
Total, 1945	87	904,476,118	337,128,344	554,253,411	87,745,022	.158	13,094,362
At merchant plants	34	194,283,400	44,328,623	147,480,727	37,699,087	.256	2,474,049
At furnace plants	53	710,192,718	292,799,721	406,772,684	50,045,935	.123	10,620,313
Total, 1944	88	1,008,799,926	373,024,121	621,161,611	94,122,400	.152	14,614,194

1/ Included under "Undistributed."

TABLE 28. - DISPOSAL OF SURPLUS COKE-OVEN GAS IN THE UNITED STATES IN 1945, BY STATES, IN M CUBIC FEET

State	Used by producer -					
	Under boilers			In steel or other affiliated plant		
	Quantity	Value		Quantity	Value	
		Total	Average		Total	Average
Alabama	7,858,073	$428,206	$0.054	24,296,043	$2,575,546	$0.106
California	....	....	.....	4,262,893	(1)	(1)
Colorado	....	....	.....	5,604,299	(1)	(1)
Illinois	5,826,787	576,989	.099	7,208,475	1,077,620	.149
Indiana	1,887,568	213,369	.113	45,525,612	5,793,856	.127
Maryland	....	....	.....	9,439,367	(1)	(1)
Massachusetts	7,804	(1)	(1)	....	....	.....
Michigan	5,052,913	725,769	.144	24,004,059	3,205,089	.134
Minnesota	270,237	(1)	(1)	1,792,981	(1)	(1)
New Jersey	....	....	.....	333	(1)	(1)
New York	2,328,258	241,585	.104	15,376,025	(1)	(1)
Ohio	2,645,045	277,284	.105	52,903,986	6,532,906	.123
Pennsylvania	3,477,704	375,909	.108	99,202,349	10,317,501	.104
Tennessee	275,098	(1)	(1)	....	....	.....
Texas	....	....	.....	1,048,826	(1)	(1)
Utah	1,239,979	(1)	(1)	8,003,120	(1)	(1)
West Virginia	214,894	15,372	.072	25,625,853	2,240,617	.087
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin	977,543	101,987	.104	....	....	.....
Undistributed	....	141,880	.079	....	5,229,465	.115
Total, 1945	32,061,903	3,098,350	.097	324,294,221	36,972,600	.114
At merchant plants	5,854,028	493,849	.084	10,700,637	1,033,529	.097
At furnace plants	26,207,875	2,604,501	.099	313,593,584	35,939,071	.115
Total, 1944	30,111,380	2,645,851	.088	384,933,114	41,946,422	.109

State	Sold					
	Distributed through city mains			For industrial purposes		
	Quantity	Value		Quantity	Value	
		Total	Average		Total	Average
Alabama	7,812,418	$838,627	$0.107	1,254,938	(1)	(1)
California	....	....	.....	....	....	.....
Colorado	....	....	.....	....	....	...
Illinois	20,696,942	3,271,352	.158	724,789	(1)	(1)
Indiana	7,368,054	3,664,309	.497	3,309,231	(1)	(1)
Maryland	7,085,815	(1)	(1)	....	....	.....
Massachusetts	14,163,815	(1)	(1)	128,291	(1)	(1)
Michigan	381,727	(1)	(1)	2,212,479	(1)	(1)
Minnesota	4,644,738	(1)	(1)	....	....	.....
New Jersey	13,448,836	(1)	(1)	....	....	.....
New York	42,137,994	13,471,800	.320	2,085,223	$364,115	$0.175
Ohio	6,664,185	1,298,910	.195	6,540,731	660,982	.101
Pennsylvania	18,424,474	4,540,409	.246	10,191,749	(1)	(1)
Tennessee	1,353,848	(1)	(1)	....	....	.....
Texas	....	....	.....	....	....	.....
Utah	703,596	(1)	(1)	220,563	(1)	(1)
West Virginia	....	....	.....	1,816,433	(1)	(1)
Connecticut, Kentucky, Missouri, Rhode Island, and Wisconsin	21,291,932	5,479,189	.257	3,234,486	218,142	.067
Undistributed	....	10,967,489	.262	....	2,898,748	.146
Total, 1945	166,178,374	43,532,085	.262	31,718,913	4,141,987	.131
At merchant plants	113,585,982	33,866,855	.298	17,340,080	2,304,854	.133
At furnace plants	52,592,392	9,665,230	.184	14,378,833	1,837,133	.128
Total, 1944	170,313,905	44,694,854	.262	35,803,212	4,835,273	.135

1/ Included under "Undistributed."

TABLE 29. - CRUDE NAPHTHALENE PRODUCED 1/ AND SOLD IN THE UNITED STATES, 1941-45, IN POUNDS

Year	Produced	Sold			Receipts per ton of coke (cents)
		Quantity	Value		
			Total	Average per pound (cents)	
1941	84,046,676	83,879,396	$1,522,518	$0.018	$0.026
1942	95,612,788	95,039,639	1,941,626	.020	.031
1943	98,096,899	98,031,058	2,088,829	.021	.033
1944	103,041,023	103,839,789	2,094,596	.020	.031
1945	87,677,299	86,936,517	1,806,967	.021	.029

1/ From byproduct-coke ovens only

TABLE 30. - PRODUCTION OF COKE, BREEZE, GAS, AND BYPRODUCTS IN THE UNITED STATES AT BYPRODUCT-COKE PLANTS OWNED BY CITY GAS COMPANIES (PUBLIC UTILITIES 1/) AND AT ALL OTHER BYPRODUCT-COKE PLANTS IN 1945

Product	Plants not owned by city gas companies	Plants owned by city gas companies (public utilities)	Total
Number of active plants	72	15	87
Coke:			
Production ... net tons	58,430,076	3,664,212	62,094,288
Value	$437,080,202	$33,110,137	$470,190,339
Average per ton	$7.48	$9.04	$7.57
Screenings or breeze:			
Production ... net tons	4,277,316	351,217	4,628,533
Sales ... do	1,061,082	27,808	1,088,890
Value	$2,908,281	$90,145	$2,998,426
Average per ton	$2.74	$3.24	$2.75
Coal charged into ovens:			
Bituminous ... net tons	82,069,793	5,144,370	87,214,163
Anthracite ... do	285,686	36,915	322,601
Total ... do	82,355,479	5,181,285	87,536,764
Value	$429,455,738	$33,039,337	$462,495,075
Average per ton	$5.21	$6.38	$5.28
Coke -			
Used by producer:			
Net tons	35,840,503	1,329,067	37,169,570
Value	$266,844,670	$9,454,255	$276,298,925
Sold:			
Net tons	22,557,426	2,379,182	24,936,608
Value	$169,949,107	$24,066,683	$194,015,790
Byproducts:			
Tar:			
Production ... gallons	652,106,266	44,201,045	696,307,311
Sales ... do	366,043,225	44,456,099	410,499,324
Value	$19,476,954	$2,350,936	$21,827,890
Ammonia:			
Production (NH_3 equivalent of all forms) . pounds	414,637,421	22,722,017	437,359,438
Liquor (NH_3 content):			
Production ... do	50,801,127	4,411,997	55,213,124
Sales ... do	47,054,833	4,384,292	51,439,125
Value	$1,453,291	$102,810	$1,556,101
Sulfate:			
Production ... pounds	1,455,345,178	73,240,079	1,528,585,257
Sales ... do	1,526,866,800	75,257,000	1,602,123,800
Value	$19,491,616	$1,042,462	$20,534,078
Gas:			
Production ... M cubic feet	847,848,089	56,628,029	904,476,118
Disposal of surplus:			
Used under boilers:			
M cubic feet	32,017,600	44,303	32,061,903
Value	$3,092,247	$6,103	$3,098,350
Average per M cubic feet	$0.097	$0.138	$0.097
Used in steel or affiliated plant:			
M cubic feet	324,241,986	52,235	324,294,221
Value	$36,952,380	$20,220	$36,972,600
Average per M cubic feet	$0.114	$0.387	$0.114
Distributed through city mains:			
M cubic feet	114,960,028	51,218,346	166,178,374
Value	$26,110,110	$17,421,975	$43,532,085
Average per M cubic feet	$0.227	$0.340	$0.262
Sold for industrial use:			
M cubic feet	29,102,560	2,616,353	31,718,913
Value	$3,236,809	$905,178	$4,141,987
Average per M cubic feet	$0.111	$0.346	$0.131
Crude light oil:			
Production ... gallons	237,439,484	8,247,769	245,687,253
Sales ... do	13,822,705	4,296,117	18,118,822
Value	$1,230,003	$331,234	$1,561,237
Light oil derivatives:			
Production ... gallons	198,864,848	3,804,718	202,669,566
Sales ... do	187,587,304	3,687,829	191,275,133
Value	$27,468,672	$418,823	$27,887,495
Naphthalene, crude:			
Production ... pounds	86,898,339	778,960	87,677,299
Sales ... do	86,157,557	778,960	86,936,517
Value	$1,791,522	$15,445	$1,806,967
All other byproducts, value	$9,159,124	$60,291	$9,219,415

1/ Byproduct ovens built by city gas companies some of which are operated in conjunction with coal-, oil-, and water-gas plants. Does not include independent byproduct plants which may sell gas to public utility companies for distribution.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

JUL 17 1946
UNIVERSITY OF ILLINOIS

HAROLD L. ICKES, Secretary R. R. SAYERS, Director

For Release July 18, 1946.

MINERAL MARKET REPORT
NO. M.M.S. 1429

SECONDARY LEAD IN 1945

The secondary lead industry continued operations at a high level in 1945, with 363,039 short tons of lead valued at $46,468,992 recovered from scrap, compared with 331,416 tons valued at $42,421,248 recovered in 1944, according to the Bureau of Mines, United States Department of the Interior. This increase in production from secondary sources did much to offset the declining domestic production and dwindling imports of primary lead.

Production of soft lead from scrap rose 15 percent, from 61,700 tons in 1944 to 70,951 tons in 1945, and the secondary lead content of antimonial lead produced rose 7 percent, from 180,818 tons in 1944 to 194,079 tons in 1945. Secondary lead recovered in solder declined from 22,245 tons in 1944 to 19,964 tons in 1945, whereas the secondary lead content of type metals produced showed a moderate increase for the first time in several years--28,525 tons in 1945 compared with 23,870 tons in 1944 and 23,201 tons in 1943. Data furnished by responding companies revealed that the primary metal content of secondary lead products increased slightly, but total production of the secondary lead industry showed a substantial gain during the year.

Of the total secondary lead recovered, 339,024 short tons were reclaimed from lead- and tin-base scrap; the remaining 24,615 tons were contained in secondary brass and bronze and reclaimed by remelting copper-base scrap. A total of 5,731 tons of lead in lead-base scrap was added to brass and bronze, bringing the total recovery of secondary lead in this type of product to 30,346 tons.

Consumption of lead-base scrap totaled 472,495 tons, gross weight, in 1945, compared with 429,261 tons in 1944. The use of battery-lead plates rose 33,213 tons, of drosses and residues 8,786 tons, of hard lead scrap 4,556 tons, of cable lead scrap 1,067 tons, and of type metal scrap 532 tons; but consumption of solder and tinny-lead scrap declined 2,543 tons, of soft lead 2,051 tons, and of mixed common babbitt scrap 326 tons. The best index of activity at plants of secondary lead smelters and remelters is their consumption of scrap each month. Consumption of all lead-base items reached a low point for the year in February, and gained until the month of May, after which it declined sharply to another low point in August at the end of the war, then climbed sharply to the year's peak of activity in October. Manufacturers and foundries used 18,580 tons, or 4 percent, of the total lead-base scrap consumed and the remaining 453,915 tons, were consumed by remelters, smelters, and refiners.

Prepared by Herbert L. Cullen and Edith E. den Hartog, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

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Throughout 1945 the demand for lead was considerably in excess of supply, necessitating a constant drain on Metals Reserve Company stock piles of the metal. This critical situtation was attributable to the manpower shortage throughout both the primary and secondary branches of the industry. Early in January, War Production Board officials met with lead producers in an effort to increase secondary output. As a result, secondary lead production was placed on the national production urgency list in order to assist the War Manpower Commission in determining manpower priority ratings. Another boost in secondary lead production was brought about by a program effected through the assistance of Metals Reserve Company, for converting low-grade lead byproducts to usable metal. Much of this idle material in the hands of dealers and secondary smelters was shipped to plants equipped to handle it, with the Government paying a subsidy in the form of transportation cost.

Consumers' inventories of lead scrap rose from 71,598 tons on hand December 31, 1944 to 79,974 tons at the end of 1945. Stocks of both soft lead scrap and the lead-base alloys increased, whereas inventories of drosses and residues declined, probably as a result of the campaign for the reduction of this material. During the same period stocks of secondary pig, bar, and ingot metals at these plants increased from 17,709 short tons to 28,982 tons.

Secondary lead recovered in the United States, 1944-45, in short tons

Secondary lead recovered

Form of recovery	1944	1945
As metal:		
At primary plants....................	11,368	18,525
At other plants......................	43,678	42,598
	55,046	61,123
In antimonial lead 1/....................	180,818	194,079
In other lead alloys......................	68,271	77,051
In copper-base alloys....................	26,667	30,346
In tin-base alloys........................	614	440
	276,370	301,916
	331,416	363,039

Recoverable lead content of scrap

Kind of scrap processed	1944	1945
New Scrap:		
Lead-base............................	33,127	44,793
Copper-base..........................	8,356	7,417
	41,483	52,210
Old scrap:		
Battery-lead plates..................	164,106	186,241
All other lead-base..................	113,145	107,351
Copper-base..........................	12,640	17,198
Tin-base.............................	42	39
	289,933	310,829
	331,416	363,039

1/ Includes 34,475 tons of lead recovered in antimonial lead from secondary sources at primary plants in 1944 and 42,366 tons in 1945.

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MINERAL INDUSTRY SURVEYS
UNITED STATES DEPARTMENT OF THE INTERIOR
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For release July 18, 1946.

MINERAL MARKET REPORT
M.M.S. No. 1430

SECONDARY NICKEL IN 1945

Secondary nickel recovered from nonferrous scrap in 1945 totaled 6,483 short tons valued at $4,538,100, a gain of 50 percent over the 4,321 tons valued at $3,024,700 recovered in 1944, according to the Bureau of Mines, United States Department of the Interior. For the first time it has been possible to measure the recovery of secondary nickel from the melting of aluminum-base scrap and the inclusion of this item accounts for a large part of the total increase in recovery of secondary nickel.

The recovery of nickel as unalloyed metal fell from 392 tons in 1944 to 31 tons in 1945, and the production of secondary monel-metal pig, shot, and castings dropped from 1,100 tons in 1944 to 450 tons in 1945. Production of copper-nickel shot declined from 776 tons averaging 49 percent nickel in 1944 to 670 tons averaging 51 percent nickel in 1945. This year marked a definite swing in the use of nickel-base scrap as comparatively insignificant tonnages of this material were used in the production of nickel as metal or in nickel-base alloys, whereas a much larger quantity of nickel in monel scrap than ever before was reported used by steel plants and gray iron foundries for alloying purposes in cast iron and steel products.

Consumption of all types of nickel scrap increased over that in the previous year, the most important single factor being the gain in the use of nickel-silver scrap, particularly by brass mills and foundries. Total stocks of 4,350 tons of nickel scrap at consumers' plants on December 31, 1945 were more than double the 2,045 tons on inventory December 31, 1944, while stocks in scrap-metal dealers' yards increased from 1,994 tons to 2,114 tons in the same period. It should be noted that the inventory figures for consumers and dealers are not comparable, as consumers' stocks include nickel silver and this item is not included in the figure for dealers' stocks.

Prepared by Herbert L. Cullen, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Secondary nickel (nonferrous) recovered in the United States, 1944-45, in short tons

Secondary nickel recovered			Recoverable nickel content of scrap		
Form of recovery	1944	1945	Kind of scrap processed	1944	1945
As metal	392	31	New scrap:		
In nickel-base alloys	1,128	672	Nickel-base	1,693	2,203
In copper-base alloys	1,866	2,120	Copper-base	430	821
In cast iron and steel 1/	525	1,702	Aluminum-base	-----	1,227
In chemical compounds	410	594			
In aluminum-base alloys	-----	1,364		2,123	4,251
	4,321	6,483			
			Old scrap:		
			Nickel-base	1,522	1,449
			Copper-base	676	643
			Aluminum-base	-----	136
			Lead-base	-----	4
				2,198	2,232
				4,321	6,483

1/ Includes only nonferrous nickel scrap added to cast iron and steel.

Consumption of purchased nickel scrap in the United States in 1945, gross weight, in short tons

Scrap item	Remelters, smelters, and refiners		Manufacturers and foundries		Total scrap used
	New scrap	Old scrap	New scrap	Old scrap	
Pure nickel	89	58	394	388	929
Monel metal	705	888	1,617	579	3,789
Nickel silver	668	2,151	4,027	1,204	8,050
Miscellaneous nickel alloys	2	-----	-----	-----	2
Nickel residues	127	-----	172	313	612
	1,591	3,097	6,210	2,484	13,382

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MINERAL MARKET REPORT
NO. M.M.S. 1431

SECONDARY TIN IN 1945

Secondary tin recovered from scrap in 1945 totaled 35,133 short tons valued at $36,538,320, compared with 32,589 tons valued at $33,892,560 recovered in 1944, according to the Bureau of Mines, United States Department of the Interior.

Recovery of unalloyed tin from scrap amounted to 3,717 tons, a decline of approximately 12 percent from the 4,245 tons recovered in 1944. Of this total, detinning plants produced 3,527 tons of pig tin from new tin-plate clippings and old tin cans, and 13 tons of tin foil and 177 tons of tin as metal in other forms were recovered at various plants from tin-base scrap and residues. Although the recovery of tin in tin-base babbitts declined from the 1944 figure, recovery in solder, in chemical compounds, in lead-base alloys, and in brass and bronze all increased.

The flow of all types of tin-base scrap except the pure tin item, block-tin pipe, declined slightly from the 1944 level, reflecting the growing scarcity of tin in this country. The increase in use of block-tin-pipe scrap was probably due to more intensive salvage efforts, bringing material into circulation which would not normally have been reclaimed. The National Lead Company's program for recovery of tin from excess type metal accounted for 11 tons of tin as metal in 1945 compared with 113 tons (revised) in 1944.

Consumption of purchased tin-base scrap and residues decreased 6 percent, from 8,612 tons in 1944 to 8,081 tons in 1945, manufacturers and foundries using 199 tons and remelters and smelters the remaining 7,882 tons. Tin-bearing scrap was scarce and demand constantly exceeded supply, so that the Government-owned stock pile of tin, which had amounted to 83,076 tons on January 1, 1942, was down to 23,350 tons on December 31, 1945, precluding any possibility of relaxation of controls even after the end of the war.

Consumers' stocks of tin-base scrap and residues decreased 24 percent during the year from 1,346 tons on January 1 to 1,022 tons on December 31, continuing the downward trend of the past few years.

Prepared by Herbert L. Cullen and Edith E. den Hartog, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

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Secondary tin recovered in the United States, 1944-45, in short tons

Secondary tin recovered

Form of recovery	1944	1945
As metal:		
At detinning plants	3,751	3,527
At other plants	494	190
	4,245	3,717
In solder	4,892	7,740
In tin babbitt	2,448	1,592
In chemical compounds	350	454
In lead-base alloys	3,301	3,990
In brass and bronze	17,353	17,640
	28,344	31,416
	32,589	35,133

Recoverable tin content of scrap

Kind of scrap processed	1944	1945
New scrap:		
Tin plate	2,654	2,911
Tin-base	2,002	1,772
Lead-base	732	1,360
Copper-base	5,852	5,113
	11,240	11,156
Old scrap:		
Tin cans	1,447	1,070
Tin-base	4,487	4,392
Lead-base	5,684	5,156
Copper-base	9,731	13,359
	21,349	23,977
	32,589	35,133

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

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MINERAL MARKET REPORT
M.M.S. NO. 1432

SECONDARY MAGNESIUM IN 1945

The recovery of secondary magnesium (including alloying ingredients) during 1945 totaled 9,247 short tons, a decrease of 35 percent from the 14,185 tons reclaimed in 1944, according to the Bureau of Mines, United States Department of the Interior. The value of secondary magnesium recovered in 1945 was $3,791,270 compared with $5,815,850 in 1944.

Recovery of magnesium from old scrap during 1945 amounted to 9 percent of the total, showing an increase over the 1944 proportion which was less than 2 percent of the total. Analysis of the figures for consumption of magnesium scrap by grade reveals a substantial decline in the ratio of borings, turnings, and sawings used to total scrap used--65 percent of the total in 1945, compared with 89 percent in 1944. This would indicate that, in spite of war production during the first half of 1945, the ratio of solid magnesium scrap to borings and turnings treated is approaching normal practice, and in time will be more like that of the other nonferrous metals.

Secondary smelters produced only 7,835 tons of secondary magnesium alloy ingot during 1945, compared with 14,419 tons in 1944. This, of course, indicates that the demand for secondary magnesium ingot was very weak during the latter half of the year, experiencing the same decline after the end of the war as that for primary magnesium ingot. The 7,835 tons of secondary ingot produced required a blending of 422 tons of primary magnesium and 168 tons of alloying ingredients, in addition to the purchased scrap used. Recovery of secondary magnesium in magnesium alloy castings was 496 short tons in 1945 compared with 235 tons in the preceding year. Recovery of secondary magnesium in rolled and extruded products was reported for the first time in 1945. A total of 864 tons of secondary magnesium was recovered in these products, all of it from solid wrought scrap, a pure magnesium material.

Improvements made in the metallurgical treatment of wrecked aircraft scrap made it possible to calculate the recovery of a small amount of magnesium from this source in 1945, and the figures have been incorporated in the total of 9,247 tons of secondary magnesium recovered. In addition to this tonnage of magnesium recovered in the melting of aluminum-base scrap, an increased amount of magnesium scrap was reported used in aluminum alloys. Due to the end of the war the consumption of magnesium scrap in chemical and incendiary uses declined,

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Prepared by Herbert L. Cullen, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

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the recovery of magnesium in such applications decreasing from 541 tons in 1944 to 241 tons in 1945. Chemical applications included use in fluxing compounds, in the Grignard reaction, and in the production of magnesium nitrate and chloride, the incendiary uses being in the production of war materials such as flares and incendiary bombs.

Secondary magnesium recovered in the United States, 1944-45, in short tons

Secondary magnesium recovered			Recoverable magnesium-alloy content of scrap		
Form of recovery	1944	1945	Kind of scrap processed	1944	1945
Magnesium-alloy ingot1/ (gross weight)	13,379	7,359	New scrap: Magnesium-base	13,976	8,422
Magnesium-alloy castings (gross weight)	235	496		13,976	8,422
Magnesium-alloy shapes	-	864			
In aluminum alloys	23	274			
In zinc alloys	5	3	Old scrap:		
In other alloys	2	10	Magnesium-base	209	697
Chemical and incendiary uses	541	241	Aluminum-base	-	128
	14,185	9,247		209	825
				14,185	9,247

1/ Figures include secondary magnesium incorporated in primary magnesium ingot.

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MINERAL MARKET REPORT
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SECONDARY ALUMINUM IN 1945

The recovery of 298,387 short tons of aluminum from scrap in 1945, valued at $85,279,005, though very large by prewar standards was well below the record 325,645 tons valued at $93,264,728 recovered in 1944, according to the Bureau of Mines, United States Department of the Interior.

Although the recoverable aluminum-alloy content of the total scrap consumed declined, the recoverable content of old scrap used rose because of increased recovery from aircraft scrap. The aluminum recovered in aluminum alloys constituted over 98 percent of the total aluminum salvaged from all classes of scrap both in 1945 and 1944. Aside from its use as metal and in aluminum alloys, aluminum is used in a few chemicals, of which aluminum chloride is the most important, in manganese and aluminum bronze, and in zinc die castings. It constitutes about 10 percent of aluminum bronze, 5 percent of manganese bronze and 4 percent of zinc die castings.

Production of remelt aluminum ingot, which had risen rapidly in the war years, decreased from 214,879 tons in 1944 to 198,426 tons in 1945. The obvious cause for the decrease in activity was the cessation of hostilities with Germany and Japan, which resulted in curtailment of demand for both primary and secondary aluminum. Monthly ingot production exhibited a rising trend for the first three months of the year, increasing about 5,000 tons in that period. Output then fell from 20,644 tons in March to 10,916 tons in September, the low point of the year, and rose moderately during the final quarter, when the price of high-grade ingot rose in some markets to 13.5 and 14 cents a pound.

As the data in the production table for 1944 were assembled from a War Production Board canvass, and those for 1945 from the Bureau of Mines' surveys, the two sets of figures are not readily comparable. In the Bureau questionnaire which replaced Form WPB-554, the number of items both for scrap and ingot was drastically reduced, in order to lessen the time and effort that the industry had to devote to completing the reports. Ingot for chemicals, powder, etc., which included aluminum used in chemical warfare, incendiary bombs, and other war uses, appears in the table as a separate item for 1943 and 1944 but was combined with ingot used for deoxidizing and other destructive uses, in the column for 1945. The amount used for war purposes would naturally decline after cessation of hostilities, but that fact is not evident from the table. Other items which were omitted in the 1945 column were combined in a similar manner. Information obtained from the monthly aluminum scrap survey indicated that there was a decreasing trend during the year in the production of alloys containing nickel, and of ingot made for deoxidizing and other destructive uses, and a rising trend in output of No. 12, the general purpose casting alloy.

Prepared by Herbert L. Cullen and A. J. McDermid, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

The metallurgical problems connected with reclaiming aluminum from aircraft scrap with caustic soda solution were solved during the year, but the process did not appear to have much chance of commercial success because of scrap transportation costs. Among the new civilian uses for aluminum alloys which were introduced during 1945 were a new type of roofing sheet, aluminum piano plates, and a number of developments in cargo and travel equipment. A survey conducted by the Aluminum Association showed that the number of uses of aluminum had increased to approximately 3,500 compared with some 2,000 before the war.

Plants producing primary metal recovered 108,705 tons of aluminum from scrap in 1945, which was combined with the much larger primary aluminum production and used by rolling mills and foundries to make sheet, bar, extruded shapes, castings, etc. Since so many aluminum alloys can be used for both wrought products and castings, it was not possible to determine the proportions of secondary aluminum that were used for the two purposes.

Aluminum ingot makers consumed 323,676 tons of aluminum scrap in 1945, or 9 percent less than in 1944. Decreases were registered in all categories except castings and forgings and aircraft scrap. One cause of the lowered consumption of new scrap was the curtailment of scrap generators' operations, on account of contract terminations and strikes. Melting of aircraft scrap totaled 15,840 tons in 1945 compared with 7,755 tons in 1944, and the increase in treatment of this scrap caused the total consumption of old scrap to rise to 32,031 tons, which is 6,808 tons more than the same total for 1944. The Navy Department increased its consumption of this material at 6 Naval Air Stations from 2,278 tons in 1944 to 5,994 tons in 1945. The work at these stations helped considerably in solving the problems of storage and disposal of the large accumulation of aircraft, which became obsolete and surplus when the war ended. Improvements in metallurgical technique by the Navy produced ingot from aircraft scrap that contained less than 1 percent iron, 4 or 5 percent copper, about 1 percent magnesium and smaller percentages of other metals. This ingot was readily usable for castings and wrought products of similar composition. Of the total scrap consumed, 207,135 tons or 64 percent were used by ingot makers at 70 plants. To bring their products to specified compositions, ingot makers also used 6,816 tons of primary aluminum, 2,010 tons of copper and brass scrap, and 4,664 tons of other alloying ingredients, such as zinc and magnesium.

Secondary aluminum 1/ recovered in the United States, 1944-45, in short tons

Secondary aluminum recovered			Recoverable aluminum-alloy content of scrap		
Form of recovery	1944	1945	Kind of scrap processed	1944	1945
As metal	2,336	2,085	New scrap:		
Aluminum alloys	320,040	294,027	Aluminum-base 2/	302,230	270,810
In brass and bronze	1,466	1,162	Copper-base	429	107
In zinc-base alloys	187	267	Zinc-base	87	159
In chemical compounds	1,616	846			
				302,746	271,076
	325,645	298,387			
			Old scrap:		
			Aluminum-base 3/	22,359	26,712
			Copper-base	440	491
			Zinc-base	100	108
				22,899	27,311
				325,645	298,387

1/ In accordance with common usage, the term "aluminum" covers aluminum alloys, and the figures include all constituents of the alloys recovered from aluminum-base scrap.

2/ Recoverable aluminum content of new aluminum-base scrap was 281,804 tons in 1944 and 252,098 tons in 1945.

3/ Recoverable aluminum content of old aluminum-base scrap was 20,495 tons in 1944 and 24,527 tons in 1945.

Consumption of purchased aluminum scrap in the United States in 1945, gross weight, in short tons

Scrap item	Remelters, smelters, and refiners		Manufacturers and foundries				Total scrap used
			Aluminum rolling mills		Foundries and other manufact'rs		
	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	
Pure clippings, wire & foil	6,986	115	1,925	-	388	6	9,420
Castings and forgings	19,384	10,910	8,901	-	434	1,214	40,843
Alloy sheet	39,713	1,083	92,073	1,010	11	30	133,920
Scrap sheet and sheet utensil	-	1,329	-	-	10	107	1,446
Borings and turnings	98,316	-	5,120	-	682	-	104,118
Die castings	-	-	-	-	245	96	341
Aircraft scrap	-	12,198	-	3,612	-	30	15,840
Misc. aluminum and dross	16,810	291	-	-	647	-	17,748
	181,209	25,926	108,019	4,622	2,417	1,483	323,676

Production of secondary aluminum and aluminum-alloy products in the United States, 1943-45, gross weight, short tons

	1943	1944	1945
Secondary aluminum ingot: 1/			
Pure aluminum (98.5 percent)	715	1,151	2,066
Silicon (max. Cu 1 percent)	471	2,885	10,618
Silicon (Cu 1 to 2.5 percent)	13,348	14,600	14,635
No. 12 aluminum	11,302	19,735	22,674
Other aluminum-copper (max. Si 2.5 percent) alloys	25,160	9,772	26,360
Copper-silicon (each over 2.5 percent) alloys	24,861	20,744	50,983
Aluminum-copper- or aluminum-silicon-nickel alloys	-	11,864	18,208
Deoxidizing and other destructive uses	32,770	48,652	44,175
Die-casting alloys	8,390	22,631	-
Aluminum hardeners	6,267	5,961	3,964
Wrought alloys	45,063	21,651	-
"Primary grade" ingot	1,401	17,078	-
Ingot for chemicals, powder, etc.	14,536	5,638	-
Piston alloys	10,295	11,815	-
Miscellaneous (and Mg & Zn alloys)	1,794	702	4,743
	2/196,373	2/214,879	198,426
Secondary aluminum at primary plants 3/	121,827	4/124,108	108,705
Aluminum powder	961	5/ 346	5/ 79
Aluminum-alloy castings	448	4/ 1,134	2,555
Aluminum in chemicals	1,180	1,616	846

1/ Gross weight of alloys, including copper, silicon, and other added elements; total secondary ingot contained 8,471 tons of primary aluminum in 1943, 8,792 tons in 1944, and 6,816 tons in 1945.

2/ Includes 18,552 tons produced on toll in 1943 and 9,089 tons in 1944.

3/ Combined with primary aluminum for the production of wrought products and castings.

4/ Revised figures.

5/ Does not include production measured as ingot for graining, powder, atomizing, or chemical purposes.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

JUL 19 1946

For release July 19, 1946.

MINERAL MARKET REPORT
NO. M.M.S. 1434

SECONDARY ANTIMONY IN 1945

Recovery of secondary antimony in lead-base and tin-base alloys totaled 17,148 short tons valued at $5,432,486 in 1945, an increase of 8 percent over the 15,886 tons valued at $5,032,685 recovered in 1944, according to the Bureau of Mines, United States Department of the Interior.

As in former years, the principal source of antimony recovered from scrap in 1945 was old battery plates. Due to the efforts of the War Production Board and its successor agency, the Civilian Production Administration, in channeling all types of lead- and tin-base scrap back to smelters' plants for reconversion, the tonnage of battery plates treated increased from 246,258 tons in 1944 to 279,471 tons in 1945. This resulted in a recovery of 8,804 tons of antimony from this source during the year, an increase of 13 percent over the 7,757 tons of antimony reclaimed in 1944. The quantity of antimony recovered in antimonial lead and in other lead-base alloys increased over that in 1944, but recovery of antimony in tin-base alloys declined. Remelters, smelters, and refiners recovered 90 percent of the antimony reclaimed in 1945, the other 10 percent being recovered by bearing manufacturers and other foundries.

The most notable increase in consumption of other lead-base items from which antimony is recovered occurred in antimonial lead scrap, which rose from 16,902 tons consumed in 1944 to 21,458 tons in 1945, an increase of 27 percent. Use of lead babbitt declined slightly and treatment of type metal scrap increased to 15,188 tons against 14,656 tons treated in 1944. As in the past, all antimony recovered from scrap remained in the alloyed state, none being regained as unalloyed metal or in chemical compounds as far as could be determined.

Early in 1945 the critical shortage of antimony made it necessary for the War Production Board to assume full control of deliveries and use of the metal, and several amendments to General Preference Order M-112 were issued toward the tightening of this control. The demand for all types of antimony exceeded domestic production by a wide margin, and manufacturers had difficulty in procuring the metal that had been allocated to them, even for war purposes.

Prepared by Herbert L. Cullen and Edith E. den Hartog, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

(over)

Secondary antimony recovered in the United States, 1944-45, in short tons

Secondary antimony recovered

Form of recovery	1944	1945
In antimonial lead	10,894	11,223
In other lead alloys	4,643	5,712
In tin-base alloys	349	213
	15,886	17,148

Recoverable antimony content of scrap

Kind of scrap processed	1944	1945
New scrap:		
Lead-base	327	2,097
Tin-base	1	-
	328	2,097
Old scrap:		
Lead-base	15,255	14,766
Tin-base	303	285
	15,558	15,051
	15,886	17,148

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UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

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MINERAL MARKET REPORT
M.M.S. NO. 1435

For release July 29, 1946.

SECONDARY COPPER AND BRASS IN 1945

The recovery of secondary copper from scrap totaled 1,006,516 short tons valued at $237,537,776 in 1945, a gain of 6 percent over the 950,942 tons valued at $224,422,312 recovered in 1944, according to the Bureau of Mines, United States Department of the Interior. Recovery of copper from old scrap climbed from 456,710 tons in 1944 to 559,815 tons or 56 percent of the total recovered in 1945, marking a return to the prewar preponderance of old scrap over new scrap.

Recovery of copper from new scrap declined from 494,232 tons in 1944 to 446,701 tons in 1945 even though the total consumption of new scrap in 1945 was slightly larger than that in the preceding year. The explanation of this apparent anomaly lies in the fact that a much larger tonnage of low-grade scrap and residues, of which the major portion was new scrap, was available for treatment during 1945. The net recovery of copper from this item is low, compared with that from other types of scrap. The production of refined copper (electrolytic grade) from scrap increased from 93,046 tons in 1944 to 98,338 tons in 1945, a gain of 6 percent. This increase was largely attributable to the increased use of low-grade residues and refinery brass at primary plants in copper production. Total recovery of unalloyed copper from scrap increased 10 percent, from 102,135 tons in 1944 to 112,856 tons in 1945.

Experiencing a sharp decline after the end of the war, the commercial production of brass and bronze ingot fell from its 1944 record of 518,261 short tons (gross weight) to 378,454 tons in 1945, a decline of 27 percent. The 378,454 tons of ingot contained 305,914 tons of copper, of which 18,716 tons were primary refined copper and the rest recovered from scrap. Total shipments of ingot during the year were 370,398 tons, as stocks at producers' plants increased from 15,135 tons (revised) at the beginning of the year to 23,191 tons on December 31. Seventy-one plants produced brass and bronze ingot for sale in 1945, but two foundries which had made ingot for their own use in 1944 discontinued this practice during that year, and did not report production in 1945.

Total production of brass-mill products from copper and copper-base scrap showed a slight increase over the 1944 level. The tonnage of unalloyed copper products reported recovered from scrap gained from 540 tons in 1944 to 8,037 tons in 1945, and of brass and bronze sheet, rod, and tubing from 509,153 tons in 1944 to 552,076 tons in the following year. Military requirements for brass strip, which had been at a war peak at the beginning of the year, declined steadily until June, when those plants operated under contracts of the Defense Plant Corporation

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Prepared by Herbert L. Cullen, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Service.

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were closed because of reduced demand. During the latter part of the year brass mills swung easily into civilian production, but were hampered at the year's end by labor difficulties. The Civilian Production Administration estimated that total 1945 production of brass-mill products was approximately 27 percent less than that in 1944, which would indicate that a larger proportion of these products was made from scrap in 1945 than in the preceding year. In this connection, it should be noted that the 1945 statistics of production from secondary sources include figures covering the reduction of fired cartridge cases to slabs under the stockpiling program.

Brass and bronze foundries reported the recovery of 166,571 tons of secondary brass and bronze in castings during 1945, an increase of 16 percent over the 143,665 tons of castings produced from scrap in 1944. As in the past, a large part of this tonnage consisted of bronze railroad bearings remelted in railroad foundries and in plants of bearing companies on a toll basis.

Consumption of purchased copper and brass scrap in 1945 totaled 1,470,737 short tons, gross weight, compared with 1,407,860 tons used in 1944. Use of scrap at plants of brass-ingot makers and refineries declined 2 percent to 714,964 tons and in brass and bronze foundries 5 percent to 159,412 tons. However, brass mills increased their consumption of scrap from 511,661 tons in 1944 to 596,361 tons in 1945, a gain of 17 percent. The remelting of fired cartridge cases declined from 136,448 tons in 1944 to 104,282 tons in 1945, marking the first decline in use of this item in four years. War Department reports on sales of fired cartridge cases indicated the use of a slightly larger tonnage and it is possible that they were combined with another item of scrap by some reporting companies.

During the first part of the year the supply of and demand for copper-base scrap were sufficiently in balance to provide full production of materials to keep prices at ceiling levels. After the war reconversion of manufacturing plants and curtailment of production from labor troubles decreased the generation of scrap and therefore its consumption. The copper scrap situation at the end of the year was one of strong demand for most types and marked scarcity of some items, including those in O.P.A. group 2 and brass mill scrap.

Secondary copper recovered in the United States, 1944-45, in short tons

Secondary copper recovered			Recoverable copper content of scrap		
Form of recovery	1944	1945	Kind of scrap processed	1944	1945
As unalloyed copper:			New scrap:		
At primary plants....	86,398	96,662	Copper-base.......	479,244	432,687
At other plants......	15,737	16,194	Aluminum-base.....	14,586	13,211
			Nickel-base.......	401	803
	102,135	112,856	Tin-base..........	1	-
In brass and bronze.....	814,898	860,287		494,232	446,701
In alloy iron and steel.	2,454	2,133	Old scrap:		
In aluminum alloys......	17,054	12,055	Copper-base.....	454,938	557,884
In other alloys.........	1,044	519	Aluminum-base...	949	1,204
In chemical compounds...	13,357	18,666	Nickel-base.....	648	503
			Lead-base.......	-	60
	848,807	893,660	Tin-base........	175	164
	950,942	1,006,516		456,710	559,815
				950,942	1,006,516

Analysis and production of secondary copper and copper-alloy products in the United States, 1944-45

Item produced from scrap	Approximate analysis (percent)						Gross weight produced (short tons)	
	Cu	Sn	Pb	Zn	Ni	Al	1944	1945
Refined copper (electrolytic grade)....	100	-	-	-	-	-	93,046	98,338
Casting copper........................	99	-	-	-	-	-	2,933	3,339
Copper sheet, rod, tubing, etc.........	99	-	-	-	-	-	540	8,037
Copper powder.........................	98	-	-	-	-	-	2,857	2,727
Copper castings.......................	98	-	-	-	-	-	2,759	415
Total unalloyed copper products...	-	-	-	-	-	-	102,135	112,856
Brass and bronze ingots:								
Tin bronze...........................	88	10	-	2	-	-	53,552	41,621
Leaded-tin bronze....................	88	6	1.5	4.5	-	-	108,336	37,963
Leaded red brass.....................	85	5	5	5	-	-	123,686	128,326
Leaded semired brass.................	81	3	7	9	-	-	48,316	36,162
High-leaded-tin bronze...............	80	10	10	-	-	-	29,918	39,326
Do.................................	84	6	8	2	-	-	24,473	7,221
Do.................................	75	5	20	-	-	-	(1)	4,466
Leaded yellow brass..................	66	1	3	30	-	-	25,843	19,269
Manganese bronze.....................	62	-	-	27	-	5	72,677	41,495
Aluminum bronze......................	89	-	-	-	-	10	5,517	3,439
Nickel silver........................	58	2	7	18	14	-	3,394	3,704
Do.................................	65	4	3	5	22	-		
Low brass............................	80	-	-	20	-	-	(2)	4,677
Silicon bronze.......................	92	-	-	4	-	-	5,096	3,060
Conductor bronze.....................	94	2	2	2	-	-	(3)	438
Hardeners and special alloys.........	81	-	-	-	-	-	17,453	7,287
Total copper-alloy ingots.........	-	-	-	-	-	-	518,261	378,454
Brass mill billets made by ingot makers	-	-	-	-	-	-	33,180	16,653
Brass and bronze sheet, rod, tubing, etc.	-	-	-	-	-	-	4/509,153	552,076
Brass and bronze castings..............	-	-	-	-	-	-	5/143,665	166,571
Brass powder...........................	-	-	-	-	-	-	883	659
Copper in chemical products (content)..	-	-	-	-	-	-	13,357	18,666

1/ Production of this item combined with 80-10-10 group in 1944.

2/ Production of this item combined with leaded yellow brass in 1944.

3/ Production of this item combined with 85-5-5-5 group in 1944.

4/ Gross weight of secondary brass and bronze in commercial shapes. Includes 347,429 tons of copper, 275 tons of nickel, 4,210 tons of lead, 330 tons of tin, 156,830 tons of zinc, and 79 tons of aluminum in 1944; and 383,122 tons of copper, 937 tons of nickel, 4,517 tons of lead, 731 tons of tin, 162,287 tons of zinc, and 482 tons of aluminum in 1945.

5/ Gross weight of secondary brass and bronze castings. Includes 113,391 tons of copper, 29 tons of nickel, 9,987 tons of lead, 7,493 tons of tin, and 7,765 tons of zinc in 1944; and 128,468 tons of copper, 158 tons of nickel, 13,338 tons of lead, 8,244 tons of tin, 16,329 tons of zinc, and 34 tons of aluminum in 1945.

Consumption of purchased copper scrap in the United States in 1945, gross weight, in short tons

Scrap item	Remelters, smelters, and refiners		Manufacturers and foundries				Total scrap used
			Brass mills		Foundries and other manufacturers		
	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	
No. 1 wire and heavy....	20,809	46,387	7,271	2,612	2,007	15,756	94,842
No. 2 wire, mixed heavy, and light.............	14,889	54,925	10,969	2,534	3,297	7,338	93,952
Composition or red brass	43,828	52,716	-	-	22,165	26,931	145,640
Railroad-car boxes......	-	939	-	-	-	51,424	52,363
Yellow brass............	37,674	93,024	323,473	127,844	4,408	8,429	594,852
Cartridge cases.........	278	21,522	-	82,350	-	132	104,282
Auto radiators(unsweated)	-	16,694	-	-	-	85	16,779
Electrotype shells......	-	1,306	-	-	-	1	1,307
Bronze..................	9,745	25,842	105	2,932	1,391	7,064	47,079
Nickel silver...........	668	2,151	3,867	1,192	160	12	8,050
Low brass...............	14,345	166	17,887	12,947	175	5,798	51,318
Aluminum bronze.........	115	592	6	372	86	122	1,293
High-lead brass.........	-	-	-	-	-	1,692	1,692
Low-grade scrap and residues...............	189,648	66,701	-	-	802	137	257,288
	331,999	382,965	363,578	232,783	34,491	124,921	1,470,737

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

JUL 30 1946
UNIVERSITY OF ILLINOIS

MINERAL MARKET REPORT
M.M.S. NO. 1436.

For release July 25, 1946.

SECONDARY ZINC IN 1945

Secondary zinc recovered in 1945 from purchased scrap and residues totaled 360,444 short tons with a value of $61,996,368, according to the Bureau of Mines, United States Department of the Interior. This total was 4 percent higher than in 1944, when 345,469 tons with a value of $59,420,668 were recovered.

The recoverable zinc content of zinc-base scrap consumed in 1945 increased 5 percent and that of the copper-base scrap consumed, 3 percent. Zinc is salvaged from zinc-base scrap chiefly by distillers, remelters, and chemical plants in the form of zinc-base products, but is recovered from brass scrap largely by brass ingot makers, brass mills, and foundries, and emerges for reuse in copper and brass. In 1945, only 3,238 tons of zinc were recovered in brass from zinc scrap, whereas, 219,681 tons or 61 percent of the total secondary zinc recovered came from copper-base scrap, nearly the same percentage as in 1944. It may be said of secondary copper, aluminum, and lead that each is recovered mostly from scrap of which it is the chief constituent, but more zinc is reclaimed from brass scrap than from zinc-base scrap.

Secondary zinc recovered in 1945 increased in nearly all types of products, that reclaimed by remelting rising from 8,178 tons in 1944 to 11,704 tons in 1945, that recovered in zinc oxide from 7,076 tons to 9,130 tons and that in lithopone from 13,720 tons to 15,647 tons. There was a small decrease in the recovery of zinc from scrap in zinc-base alloys, which included remelt die-cast slab and zinc-die alloys such as kirksite. Zinc recovered by remelting included remelt spelter, rolled zinc, cast zinc, and galvanizers' stock. Although the galvanizing industry is a major consumer of slab zinc, it does not use much scrap but generates galvanizers' dross, skimmings, and sal skimmings. Sal skimmings, which result when sal ammoniac flux is added to the molten zinc in the galvanizing kettle, have a zinc content of 40 to 50 percent and contain considerable zinc chloride. This item of scrap is used by chemical plants in the manufacture of zinc chloride and zinc ammonium chloride. If treated in a smelting furnace for recovery of zinc in metallic form, the zinc chloride must first be dissolved out or it will pass off in the flue gases and be lost.

Twenty-two distillers used zinc scrap in 1945, and of these 11 made only redistilled slab, 5 made only dust, and the other 6 both. One plant that had produced slab in 1944 distilled no scrap in 1945 but all 1944 dust producers were still operating in 1945 and one new plant was added to the list covered by the

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Prepared by Herbert L. Cullen and A. J. McDermid, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

survey. Secondary zinc recovered at 43 chemical plants in 1945 totaled 41,866 tons compared with 36,738 tons in the previous year. Secondary zinc recovery increased in all types of chemicals tabulated except the miscellaneous group, which includes leaded zinc oxide, zinc carbonate, and minor zinc chemicals. In addition to the distillers and chemical plants, those covered by the survey included 117 remelters, brass-ingot makers, zinc smelters, and scrap-metal dealers, and 81 foundries and other manufacturers.

Consumption of zinc-base scrap totaled 202,725 tons in 1945 compared with 199,000 tons in 1944. Of this, 168,833 tons or 83 percent were byproduct residues and the remainder metallic scrap. Of the residues, those resulting from galvanizing operations, galvanizers' dross and skimmings, showed the greatest increases in use for the year, that of the former rising from 48,613 tons in 1944 to 53,595 tons in 1945 and consumption of skimmings and ashes increasing from 64,902 tons in 1944 to 73,575 tons in 1945. A major use of galvanizers' dross is its distillation to make zinc dust, several plants in the country being devoted exclusively to this operation.

Of the metallic zinc items, consumption of die-cast and die scrap combined rose from 11,080 tons in 1944 to 17,269 tons in 1945. A factor in this rise was the increased salvage of obsolete and worn out forming dies which had been used in the manufacture of aircraft. However, very little of the rod and die scrap was used in making new forming dies. Nearly all of it emerged as redistilled slab and zinc oxide.

Owing to the increased use of die-cast and rod and die scrap, metallic zinc scrap consumption exhibited an erratic but generally rising trend during 1945. Total residue consumption decreased because, although galvanizing residue treatment increased, that of flue dust and chemical residues declined. The latter are a byproduct from the manufacture of sodium hydrosulfite.

Stocks of zinc scrap in the hands of consumers totaled 39,178 tons at the end of 1945, which compares with 29,861 tons at the end of the previous year. The rise was caused principally by increased inventories of die-cast and die scrap, which are included in the figure for consumers' stocks of metallic scrap.

Dealers supplied consumers with a total of 56,491 tons of zinc scrap during 1945, an increase of 13,720 tons over the 42,771 tons shipped during 1944. The increase in shipments to consumers could largely be attributed to gains in shipments of die-cast and die scrap, especially aircraft forming-die scrap in the latter half of the year. Dealers bought up this material as fast as it was offered and as a result outstanding increases occurred in shipments to consumers and in dealers' receipts of zinc scrap, which rose from 44,171 tons in 1944 to 59,477 tons in 1945. Stocks of 9,730 tons in dealers' yards and warehouses on December 31, 1945 were the highest on record.

Secondary zinc recovered 1/ in the United States, 1944-45, in short tons

Secondary zinc recovered			Recoverable zinc content of scrap		
Form of recovery	1944	1945	Kind of scrap processed	1944	1945
As metal:			New scrap:		
By distillation:			Zinc-base	106,504	118,277
Slab zinc	48,582	48,816	Copper-base	125,765	119,343
Zinc dust	22,753	23,416	Aluminum-base	39	1,227
By remelting	8,178	11,704		232,308	238,847
	79,513	83,936			
In zinc-base alloys	6,826	6,531	Old scrap:		
In brass and bronze	222,383	226,939	Zinc-base	26,018	21,158
In aluminum-base alloys	9	1,355	Copper-base	87,143	100,338
In chemical products:			Aluminum-base	-	101
Zinc oxide (lead free)	7,076	9,130		113,161	121,597
Zinc sulfate	2,558	3,216			
Zinc chloride	11,117	11,666		345,469	360,444
Lithopone	13,720	15,647			
Miscellaneous	2,267	2,024			
	265,956	276,508			
	345,469	360,444			

1/ Zinc content.

Production of secondary zinc and zinc-alloy products in the United States, 1944-45, gross weight, in short tons

Products	1944	1945
Redistilled slab zinc	49,037	49,242
Zinc dust	1/ 23,307	23,892
Remelt spelter 2/	7,741	8,090
Remelt die-cast slab	3,760	4,727
Zinc-die and die-casting alloys	1,786	2,281
Galvanizing stock	594	701
Rolled zinc	1,737	3,054
Secondary zinc in chemical products	36,738	41,866

1/ Revised figure.
2/ Contains small tonnages of zinc anodes.

Consumption of purchased zinc scrap in the United States in 1945, gross weight, in short tons

Scrap item	Remelters, smelters, and refiners		Manufacturers and foundries		Total scrap used
	New scrap	Old scrap	New scrap	Old scrap	
Clippings	4,597	-	4,995	-	9,592
Sheet and strip	-	4,774	-	499	5,273
Engravers' plates	-	1,670	-	88	1,758
Skimmings and ashes	45,044	-	28,531	-	73,575
Dross	52,997	-	598	-	53,595
Die castings	2,715	8,145	254	186	11,300
Rod and die scrap	1,492	4,477	-	-	5,969
Flue dust and residues	9,361	6,700	16,312	9,290	41,663
	116,206	25,766	50,690	10,063	202,725

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

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FOR RELEASE July 24, 1946

MINERAL MARKET REPORT
MMS NO. 1437

BARITE AND BARIUM CHEMICALS IN 1945

New records were established in all important phases of the barite industry in 1945, according to the Bureau of Mines, United States Department of the Interior. Domestic production reached 692,330 short tons, 34 percent higher than the previous 1944 record. Consumption of domestic and imported barite was reported as 720,903 tons, 21 percent greater than during the prior high year, 1944. Arkansas and Missouri mills grinding for the Gulf well-drilling trade were mainly responsible for the unprecedented sales of ground barite, the national total being 468,939 short tons as against 344,757 for 1944, the previous record year.

The distribution of consumption of barite in the United States in 1945 was reported as follows (1944 in parentheses): Weighting oil-well drilling muds to prevent blowouts, 407,871 short tons (277,792); for barium chemical manufacture, 99,173 (100,921); for lithopone manufacture, 139,288 (134,597); as an ingredient of glass, 25,761 (24,153); as a filler in paint, 21,000 (23,000); as a rubber filler, 10,000 (10,000); and for other purposes, including grinding losses, 17,810 (25,100); total, 720,903 (595,563).

Activity was high in nearly all barite areas. Of the regularly producing States, only Tennessee reported a decrease in output. Arkansas became the leading producer of barite in 1944, having wrested this distinction from Missouri, now the second largest producer. Georgia is third. Barite was discovered accidentally in Arkansas in 1900 but was not exploited commercially until 1941. Virtually all the barite produced there is consumed in drilling oil wells.

Western producers were active in seeking new deposits in 1945. California-Nevada Barytes Mines, Division of the Glidden Co., reopened a mine at Tonopah, Nev. Barium Products Ltd. of Modesto, Calif., started production at a mine near Greenville, Plumas County, Calif. Baroid Sales Division of the National Lead Co., acquired the barite property of Industrial Minerals & Chemical Co. at Washington, Calif., and opened a new mine at Auburn, Placer County.

The term "Crude (primary) barite" in the following tables applies to barite as first offered to the trade, whether lump, crushed, or ground. The figure thus includes ground barite from Malvern, Arkansas, and El Portal, Calif., and lump barite from washers, open pits, and underground workings. Where ground barite has been reported to the Bureau of Mines as original production, an estimate of the value of the crude equivalent of the ground was assigned to such tonnage.

Prepared by Charles L. Harness and F. M. Barsigian, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

Salient statistics of the barite, witherite, and barium-chemical industries in the United States, 1942-45

	1942	1943	1944	1945
Barite:				
Crude (primary):				
Produced.............short tons	449,873	429,298	515,136	692,330
Sold or used by producers:				
Short tons	429,484	420,343	518,617	696,062
Value: 1/				
Total	$2,673,002	$2,796,776	$3,558,489	$5,348,652
Average	$6.22	$6.65	$6.86	$7.68
Imports for consumption:				
Short tons	4,680	----	67,888	56,894
Value: 2/				
Total	$34,756	----	$459,664	$382,611
Average	$7.43	----	$6.77	$6.72
Apparent new supply 3/ short tons	434,164	420,343	586,505	752,956
Domestic.............percent	98.9	100	88.4	92.4
Reported consumption (total) short tons	449,424	453,744	595,563	720,903
Ground (and crushed):				
Sold by producers: 4/				
Short tons	178,765	208,252	344,757	468,939
Value	$3,611,745	$3,743,919	$5,455,835	$7,519,759
Imports for consumption:				
Short tons	----	----	11,964	1
Value	----	----	$243,917	$15
Witherite:				
Imports for consumption:				
Short tons	3,066	448	----	896
Value	$60,824	$9,452	----	$26,736
Barium chemicals:				
Sold by producers:				
Short tons	5/ 73,232	5/78,323	5/73,591	68,070
Value	5/$7,630,322	5/$8,345,422	5/$7,740,666	$6,817,154
Imports for consumption:				
Short tons	385	212	95	35
Value	$105,275	$33,120	$7,382	$3,098
Lithopone:				
Sold or used by producers: 6/				
Short tons	137,320	135,723	142,909	136,161
Value	$10,828,924	$10,745,305	$11,208,891	$10,645,316
Exports of lithopone:				
Short tons	17,036	17,320	11,551	11,576
Value	$1,733,698	$1,637,217	$1,107,430	$1,049,961

1/ F.o.b. mine shipping point.

2/ Declared value f.o.b. foreign market.

3/ Barite sold or used by producers plus imports.

4/ Although all barite is crushed before use in chemicals, barite used in chemicals is not included in the 1945 total. In 1944 and prior years small quantities of crushed barite used by chemical producers are included.

5/ Revised figures; see table "Barium chemicals produced and used or sold by producers in the United States, 1944-45."

6/ Exclusive of cadmium lithopone.

Crude (primary) barite sold or used by producers in the United States, 1944-45, by States

State	1944		1945	
	Short tons	Value	Short tons	Value
Arkansas............	159,686	1/$1,045,546	260,660	1/$1,934,098
Georgia.............	108,851	929,090	110,393	1,056,035
Missouri............	150,748	1,121,678	225,467	1,841,959
Nevada..............	22,390	84,859	28,919	106,052
Tennessee...........	43,033	279,567	32,812	256,756
Other States 2/.....	33,909	97,749	37,811	153,752
	518,617	3,558,489	696,062	5,348,652

1/ Partly estimated.
2/ 1944: California, North Carolina, and South Carolina; 1945: California and North Carolina.

Crude barite (domestic and imported) used in the manufacture of ground barite and barium chemicals in the United States, 1941-45, in short tons

Year	In manufacture of--			Total
	Ground barite 1/	Lithopone	Barium chemicals	
1941...............	243,846	153,982	93,005	490,833
1942...............	200,443	144,821	104,160	449,424
1943...............	225,154	129,493	99,097	453,744
1944...............	360,045	134,597	100,921	595,563
1945...............	482,442	139,288	99,173	720,903

1/ Includes some crushed barite.

In the following table figures for consumption of ground barite in "Paint", "Rubber", and "Undistributed" have been estimated partly by the grinders and partly by the Bureau of Mines.

Ground (and crushed) barite sold by producers, 1943-45, by consuming industries 1/

Industry	1943		1944		1945	
	Short tons	Percent of total	Short tons	Percent of total	Short tons	Percent of total
Well drilling	144,452	69	277,792	80	407,871	87
Paint.........	15,000	7	23,000	7	21,000	4
Glass.........	25,464	12	24,153	7	25,761	6
Rubber........	8,000	4	10,000	3	10,000	2
Undistributed.	15,336	8	9,812	3	4,307	1
	208,252	100	344,757	100	468,939	100

1/ Although all barite is crushed before use in chemicals, barite used in chemicals is not included in the 1945 total. In 1944 and prior years small quantities of crushed barite used by chemical producers are included.

Output of several of the barium chemicals declined further in 1945 from the peaks attained in 1943, notably the chloride, hydroxide, and nitrate.. On the other hand, reconversion of brick kilns accounted for record production of barium carbonate for use as a brick descummer. Production of oxide, peroxide, and sulfate was also up. As all barium chemicals with the possible exception of the nitrate have well-recognized peace-time uses, business should be brisk as soon as the Nation recovers from the war.

Barium chemicals produced and used or sold by producers in the United States, 1944-45, in short tons

Chemical	Plants	Produced	Used by producers in other barium chemicals 1/	Sold by producers 2/	
				Short tons	Value
Black ash: 3/					
1944	17	153,624	153,573	371	$16,316
1945	15	149,871	149,203	257	10,490
Carbonate (synthetic):					
1944	5	37,911	27,551	9,313	467,288
1945	5	40,689	25,139	15,287	905,402
Chloride (100 percent basis):					
1944	3	17,183	5,766	11,446	955,571
1945	3	14,766	4,743	9,562	831,072
Hydroxide:					
1944	3	2,462	98	2,429	244,072
1945	3	2,334	123	2,135	242,124
Nitrate:					
1944	3	11,160	----	11,333	2,066,976
1945	2	(4)	----	(4)	(4)
Oxide:					
1944	3	4,748	4,638	84	19,158
1945	3	6,253	5,965	260	52,057
Peroxide:					
1944	2	(4)	(4)	(4)	(4)
1945	2	(4)	(4)	(4)	(4)
Sulfate (synthetic):					
1944	8	5/30,804	5/18,720	5/11,340	5/790,366
1945	8	30,822	17,602	12,856	922,902
Other barium chemicals: 6/					
1944	(7)	5/30,111	2,904	5/27,275	5/3,180,939
1945	(7)	36,412	4,405	27,713	3,853,107
Total:					
1944	8/22	----	----	5/73,591	5/7,740,686
1945	8/19	----	----	68,070	6,817,154

1/ Includes purchased material.
2/ Exclusive of purchased material and exclusive of sales by one producer to another.
3/ Black-ash data include lithopone plants.
4/ Included under "Other barium chemicals."
5/ Revised figures.
6/ 1944-45: Consists mostly of titanium dioxide-barium sulfate pigments, with small quantities of barium acetate, chromate, nitrate, perchlorate, and peroxide. Specific chemicals may not be revealed by specific years.
7/ Plants included in above figures.
8/ A plant producing more than 1 product is counted but once in arriving at grand totals.

Lithopone 1/ sold or used by producers, 1943-45, by consuming industries

Industry	1943	1944	1945
	Short tons	Short tons	Short tons
Paints, enamels, and lacquers........	103,860	108,800	109,398
Floor coverings and textiles........	15,999	14,746	15,821
Rubber..............................	1,078	726	977
Other...............................	14,786	18,633	9,965
	135,723	142,905	136,161

1/ Exclusive of cadmium lithopone.

In its 1945 canvass of barium chemicals, the Bureau of Mines, at the request of some of the producers, for the first time asked for end uses of certain barium chemicals. Precise figures in some cases were not available, as not all of the respondents maintained records of end uses of their chemicals sold. The following table is therefore only an approximation, consisting partly of precise figures and partly of estimates. One chemical on the questionnaire, barium peroxide, is not shown because there were only two producers, and another item, barium hydroxide, is not shown because of the uncertainty of the percentages of its end use distribution (mostly lubricants). Each of the figures represents sales of at least three firms, in order to avoid disclosure of individual operations.

Estimated distribution of consumption of specified barium chemicals in the United States in 1945, in short tons
(Exclusive of consumption in making other barium chemicals)

Consuming industry	Precipitated barium carbonate	Barium chloride, basis 100% $BaCl_2$	Precipitated barium sulfate (blanc fixe)
Brick descumming....................	5,200	----	----
Ceramics, glazes, enamels, and glass	3,400	----	(1)
Linoleum and oilcloth...............	-----	----	2/700
Oil well drilling...................	4,000	----	----
Paint and printing ink..............	-----	1,700	3/22,100
Paper, plastics, and rubber.........	-----	2/3,800	5,600
Steel carburizing...................	1,600	700	----
Other...............................	4/1,100	5/3,300	6/2,100
	15,300	9,500	30,500

1/ Included under "Other."
2/ Includes textiles.
3/ Includes that used in titanium dioxide-barium sulfate pigments.
4/ Unspecified.
5/ Includes reagent use, food products, petroleum products, soap, cleansers, and unspecified.
6/ Includes medicinal and ceramic uses and exports.

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FOR RELEASE July 24, 1946

MINERAL MARKET REPORT
MMS NO. 1438

GYPSUM AND GYPSUM PRODUCTS - FINAL FIGURES FOR 1945

Despite price difficulties and shortages of labor and materials, the gypsum industry as a whole recovered in 1945 from the war-time low of 1944, according to the Bureau of Mines, United States Department of the Interior. Small increases were recorded for both mined and calcined gypsum, the generally accepted barometers of the industry. Receipts of Canadian gypsum, for use in plaster and wallboard plants on the Atlantic seaboard and for peanut fertilizer in the Southeast, were the highest since 1941, although still much below pre-war levels. Sales of most gypsum building products showed increases, although sales of some low-profit items (including lath) and temporary structural materials (sheathing and laminated board) declined.

When the War Production Board on October 15, 1945 abolished Conservation Order L-41, which had controlled construction since April 1942, rapid improvement in the availability of most construction items was expected. These expectations were not borne out. Accordingly, the Civilian Production Administration issued Priorities Regulation 33 on December 20, 1945, effective January 15, 1946, requiring that dealers in construction materials set aside certain percentages of their sales for veterans and low-cost reconversion housing. The commodities affected included gypsum board and lath. The C.P.A. estimated the material set aside would be sufficient for 400,000 dwelling units and that the remainder would supply the needs of 100,000 additional units. That some such action in the case of gypsum board was necessary is shown by the gradual increase in producer's unfilled orders, which amounted to about 30 days' production on January 1, 1945, but had increased to 3 or 4 months' production by the end of 1945.

It soon became apparent that the construction industry would require additional assistance, and that the 500,000 houses originally aimed at by Priorities Regulation 33 were inadequate. A bill (H.R. 4761) was introduced in Congress to amend the National Housing Act, placing wide powers of price control, priorities, and subsidies under the control of a Housing Expediter. The bill became law on May 22, 1946. Under the authority of this bill, known as the Veterans' Emergency Housing Act of 1946, the Housing Expediter proposed to allocate construction materials to 700,000 conventional houses, 250,000 temporary units, and 250,000 permanent prefabricated houses in 1946, followed by 600,000 prefabricated houses and 900,000 conventional houses in 1947. This program should provide a tremendous market for gypsum products. The Department of Commerce estimated that 3,431 million square feet of gypsum board and lath would be required in 1946 and 4,585 million in 1947 for all construction uses, including the units erected under the Veterans' Emergency Housing Act.

Prepared by Charles L. Harness and M. G. Downey, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

Salient statistics of the gypsum industry in the United States, 1942-45

	1942	1943	1944	1945
Active establishments 1/......	90	85	77	75
Crude gypsum: 2/				
Mined............short tons.	4,697,568	3,877,541	3,761,234	3,811,723
Imported..............do....	394,460	231,323	342,462	508,762
Apparent supply.....do....	5,092,028	4,108,864	4,103,696	4,320,485
Calcined gypsum produced: 3/				
Short tons..................	3,045,082	2,557,730	2,363,143	2,485,090
Value.......................	$16,403,068	$14,751,587	$13,841,399	$14,473,566
Gypsum products sold: 3/				
Uncalcined uses:				
Short tons..................	1,514,913	1,233,727	1,056,276	1,147,797
Value.......................	$3,533,607	$3,114,789	$2,953,564	$3,432,727
Industrial uses:				
Short tons..................	142,705	163,500	200,473	157,796
Value.......................	$1,840,927	$2,258,981	$2,550,649	$2,326,363
Building uses:				
Value.......................	$57,796,210	$53,722,762	$50,196,006	$54,389,504
Total value.................	$63,170,744	$59,096,532	$55,700,219	$60,148,594
Gypsum and gypsum products -				
Imported for consumption....	$508,321	$304,154	$394,603	$548,697
Exported....................	$977,863	$283,720	$489,980	$1,502,668

1/ Each mine, plant, or combination mine and plant is counted as 1 establishment.
2/ Excludes byproduct gypsum.
3/ Made from domestic, imported, and byproduct crude gypsum.

Increased output of crude gypsum in Texas, Iowa, and Michigan overcame by a small margin decreases in California, Nevada, and New York, resulting in a 1 percent gain in 1945 production over 1944, the wartime low.

Active operations totaled 49, comprising 22 underground mines, 19 open quarries, and 8 mine-quarry combinations. Production of crude gypsum by States for 1944-45 is given in an accompanying table.

Crude gypsum mined in the United States, 1944-45, by States

State	1944			1945		
	Active mines	Short tons	Value	Active mines	Short tons	Value
California..............	6	502,629	$799,882	5	455,319	$967,507
Iowa....................	5	398,143	655,392	5	430,843	569,964
Michigan................	4	552,672	891,965	4	640,186	862,028
Nevada..................	3	392,748	693,107	3	368,246	732,253
New York................	7	594,067	1,128,821	7	557,902	1,262,989
Texas...................	7	344,936	489,638	6	407,640	511,869
Other States 1/.........	17	976,039	1,791,962	19	951,587	2,077,714
	49	3,761,234	6,450,767	49	3,811,723	6,984,324

1/ By groups of States as follows - 1944: Arkansas (1), Kansas (2), and Oklahoma (2) 295,604 tons, valued at $472,789; Colorado (2), Montana (2), South Dakota (1), Utah (2), and Wyoming (1)--165,360 tons, $296,033; Ohio (2) and Virginia (2)--515,075 tons, $1,023,140. 1945: Arizona (1), Arkansas (1), and Kansas (2)--120,422 tons, $160,156; Colorado (3), Montana (2), South Dakota (1), and Wyoming (1)--129,587 tons, $243,214; Ohio (2) and Virginia (2)--477,595 tons, $1,356,592; Oklahoma (2) and Utah (2)--223,983 tons, $317,752.

The production of calcined gypsum in 1945 was obtained from 44 active plants distributed through 19 States. Active calcining equipment in these plants comprised 176 units. The average mill value of calcined gypsum, which is a "transfer value" estimated by producers, was $5.82 per short ton, a drop of 4 cents from the 1944 value. Output by districts follows:

Calcined gypsum produced in the United States, 1944-45, by districts

District	1944		1945	
	Short tons	Value	Short tons	Value
New Hampshire, Vermont, Massachusetts, and Connecticut....	39,084	$288,714	50,102	$394,764
Eastern New York, New Jersey, Georgia, and Florida...........	163,820	1,260,031	204,075	1,551,450
Western New York..................	372,781	2,048,641	394,994	1,951,849
Ohio and Virginia..................	301,622	1,912,805	309,500	1,961,566
Michigan and Indiana...............	339,543	1,928,014	374,647	2,222,934
Iowa................................	279,140	1,427,780	286,422	1,467,605
Kansas and Oklahoma................	176,120	1,111,741	178,736	1,164,396
Texas...............................	237,461	1,166,096	273,102	1,288,755
Colorado, Wyoming, South Dakota, Montana, and Utah................	98,025	663,738	96,158	707,092
California and Nevada..............	355,547	2,033,839	317,354	1,763,155
	2,363,143	13,841,399	2,485,090	14,473,566

Industrial plaster requirements eased even before the war's end, making more plaster available for the nation-wide construction which began immediately after W.P.B. Limitation Order L-41 was dropped. Sales of uncalcined gypsum were higher than in 1944, as the decrease in shipments of agricultural gypsum was more than compensated by a sharp recovery in portland-cement retarder sales.

Shipping space from Nova Scotia continued to be restricted during 1945, although less so than in 1944, and Nova Scotian anhydrite available for dusting the peanut crops in Florida, Georgia, and Virginia was in very short supply. Considerable agricultural gypsum was shipped from Plasterco and Saltville, Va., but not enough to meet all demands of peanut growers. On the other hand, sales of California agricultural gypsum increased. In the West gypsum is used to neutralize black alkali soils, calcium combining with carbonate ions to form nearly insoluble calcium carbonate, and sulfate combining with sodium to form neutral sodium sulfate.

The main statistical aspects of domestic and imported gypsum products for 1944 and 1945 are presented in the following table.

Gypsum products (made from domestic, imported, and byproduct crude gypsum) sold or used in the United States, 1944-45, by uses

Use	1944		1945	
	Short tons	Value	Short tons	Value
Uncalcined:				
Portland-cement retarder	565,030	$1,184,061	664,247	$1,502,689
Agricultural gypsum	477,033	1,613,078	462,217	1,715,982
Other uses 1/	14,213	156,425	21,333	214,056
Total uncalcined uses	1,056,276	2,953,564	1,147,797	3,432,727
Industrial:				
Plate-glass and terra-cotta plasters	25,545	171,716	20,317	136,378
Pottery plasters	31,588	420,994	30,807	414,187
Orthopedic and dental plasters	12,509	370,776	13,907	416,712
Other industrial uses 2/	130,831	1,587,163	92,765	1,359,086
Total industrial uses	200,473	2,550,649	157,796	2,326,363
Building:				
Cementitious:				
Plasters:				
Base-coat	521,357	4,669,030	640,276	6,103,402
Sanded	76,406	456,117	68,485	428,631
To mixing plants	19,063	107,653	10,938	70,827
Gauging and molding	77,838	910,629	88,800	1,084,902
Prepared finishes	5,647	141,863	6,663	213,211
Insulating and roof-deck	27,454	218,211	35,300	286,302
Other 3/	13,758	643,649	14,918	681,930
Keene's cement	12,422	101,588	14,158	217,723
Total cementitious	753,945	7,338,740	879,538	9,086,928
Prefabricated:				
Lath 4/	470,109	7,908,857	445,497	8,177,308
Wallboard 5/	974,972	26,507,684	1,023,537	28,994,151
Sheathing board 6/	117,967	2,300,069	102,692	2,304,165
Laminated board 7/	179,673	4,714,096	125,222	4,002,216
Tile 8/	85,308	1,426,560	104,943	1,824,736
Total prefabricated	1,828,029	42,857,266	1,801,891	45,302,576
Total building uses	----	50,196,006	----	54,389,504
Grand total value	----	55,700,219	----	60,148,594

1/ Includes uncalcined gypsum sold for use as filler and rock dust, in brewer's fixe, color manufacture, and for unspecified uses.

2/ Includes statuary, industrial casting and molding plasters, dead-burned filler, granite polishing, and miscellaneous uses.

3/ Includes joint filler, patching and painter's plaster, and unclassified building plasters.

4/ 1944: 625,553 M square feet; 1945: 599,431 M square feet.

5/ 1944: 1,208,158 M square feet; 1945: 1,286,912 M square feet.

6/ 1944: 114,704 M square feet; 1945: 100,627 M square feet.

7/ Square footage in terms of component board-1944: 167,580 M square feet; 1945: 116,908 M square feet.

8/ Includes partition, roof, floor, soffit, shoe, and all other gypsum tiles and planks - 1944: 15,067 M square feet; 1945: 17,988 M square feet.

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For release July 24, 1946

MINERAL MARKET REPORT
M.M.S. No. 1439

BARITE IN THE FIRST QUARTER OF 1946

Output of primary barite in the United States amounted to 153,565 short tons in the first quarter of 1946, according to the Bureau of Mines, United States Department of the Interior. Production was high seasonwise, but fell below the fourth quarter of 1945. The first quarter of each year generally shows a decrease in the rate of production compared with the rest of the year, owing to shut-down of eastern washers in freezing weather and to blocking of western operations by snow. Arkansas and Missouri with the aid of new capacity completed in 1945, accounted for the increase over the comparable 1945 quarter. Output in the other producing States was lower.

Although it is reported that a domestic firm has contracted to purchase 25,000 tons of Canadian barite, there were no receipts of Canadian ore in the first quarter of 1945, owing to ice conditions in the Bay of Fundy. Mexico shipped 114 short tons of crude barite valued at $646. There were no receipts of ground barite during the quarter. As the duty on ground material is $7.50 a long ton, it is generally imported only as a stop-gap measure to meet contract requirements.

The Office of Price Administration set a price of $15.50 per short ton of glass-grade barite in bulk sold by J. R. Dellinger, f.o.b. Tiff, Mo., in Letter Order 39 to Maximum Price Regulation 327, May 8, 1946. Barytes Mining Co., Potosi, Mo., in Order L-45 of June 21, 1946, obtained the same ceiling. In each case $2 additional was permitted for packing in 100-pound bags.

In the following table "primary barite" includes and is limited to ground barite produced at El Portal, Calif.; flotation barite produced at Malvern, Ark., and Cartersville, Ga.; and all crude, lump, and pebble barite produced in the United States except a very small amount of hand-mined material not included in the canvass. The term primary barite is intended to encompass production of all barite regardless of the form in which it is marketed, but is intended to exclude as a duplication any ground or crushed barite which has already been included as lump material.

Prepared by Charles L. Harness and F. M. Barsigian, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

Production, distribution, and stocks of barite during the first quarter of 1945 and 1946, in short tons

	First quarter	
	1945	1946
Production of primary barite by States:		
Arkansas	55,613	67,662
Georgia	28,139	11,670
Missouri	46,234	61,269
Tennessee	7,713	(1)
Other States	2/ 7,578	3/ 12,964
	145,277	153,565
Estimated distribution of domestic barite by Uses:		
Well drilling	91,781	83,691
Chemicals	15,724	19,930
Lithopone	22,075	18,690
Glass	5,991	6,229
Filler	8,833	10,637
Other (including exports)	---	1,470
	144,404	140,647
Production of ground and crushed barite	4/ 109,172	103,575
Crude barite stocks end of quarter:		
Held by producers, crushers, and grinders of crude barite	22,069	33,879

1/ Included under "Other States."
2/ Includes California and North Carolina.
3/ Includes California and Tennessee.
4/ Revised figure.

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For release July 20, 1946

MINERAL MARKET REPORTS
MMS No. 1440

COPPER IN 1945

Most commodities were subject to widely varying economic conditions during 1945 and copper ranked with those commodities that experienced the most drastic changes because of the close relationship between this metal and the production of armaments, according to the Bureau of Mines, United States Department of the Interior. In the first quarter of 1945 copper was consumed at a greatly expanded rate, easily representing the record until then, and almost every indication seemed to point to an all-time peak in 1945. Early in 1945, however, the opinion was widely held that stated military requirements for copper were excessive to a marked degree, the early defeat of German military forces appeared assured, and concern was growing as to the disposition of the potential surplus of world production over normal world requirements. On the other hand plans for defeating Japan included provisions for the use of such large quantities of copper that fears concerning surpluses were said to be premature. Germany surrendered in May and the sudden collapse of Japanese resistance in August gave little time for the expected orderly working out of surplus world supply problems during the progress of a one-front war. Governments in Chile, Rhodesia, Belgian Congo and Canada were gravely concerned with the problems surrounding the disposal of their surplus production of copper and in the three first-named countries copper exports are the most important source of foreign exchange.

Following Germany's surrender, copper deliveries of duty-free and duty-paid foreign copper for domestic consumption, as reported by the Copper Institute, dropped precipitously; they were 537,000 tons in the first quarter, 394,000 tons in the second, 259,000 tons in the third and recovered to 328,000 in the final quarter of 1945. The first quarter deliveries constituted a new high record by a substantial margin, the 218,488 tons for March having exceeded the prewar (1935-39) monthly average of nearly 57,000 tons by 283 percent. Only about one-third of the record March total was supplied from domestic sources, the remainder coming from Office of Metals Reserve stocks.

Despite the large demands for copper early in 1945 and the fact that proposed legislation, subsequently enacted into law in June, assured the continuation of bonus payments until June 30, 1946, a gradual reduction was taking place in supplies from domestic mines. Mine production aggregated 204,000 tons in the first quarter of 1945, 208,000 in the second, 184,000 in the third and 179,000 in the fourth. Production in the first quarter of 1945 was 24 percent below that in the first quarter of 1944, contrasted with the behavior of deliveries which were 40 percent higher in the first quarter of 1945 as compared with the similar period in 1944. Declining production in the face of record requirements is explained in large part by the continuing inability of Government and operators to solve the problems imposed by the shortage of labor and the overall inefficiency of the segment available. The failure by a wide margin of

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Prepared by Helena M. Meyer, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

domestic mines to supply total needs for copper in the late months of 1945, after hostilities ended, was a promising factor from a world viewpoint; the United States apparently would require metal from abroad to fill large pent-up civilian demand.

Most of the Government foreign purchase contracts were terminated effective October 31. Before the end of the year, however, domestic production was lagging far behind consumption and Government stocks were being depleted. In consequence of the inadequacy of United States production for current requirements the Civilian Production Administration recommended the resumption of foreign purchases late in December and at the same time announced that the gap between production and reconversion requirements had widened to 46,000 tons. Announcement of the resumption was made January 29, 1946, when the Reconstruction Finance Corporation indicated that 20,000 tons a month for the first 6 months of 1946, or a total of 120,000 tons, would be bought abroad by the Office of Metals Reserve.

Imports of refined copper continued to establish new high records in 1945, a trend that began in 1941. The refined class accounted for 62 percent of the total unmanufactured copper entered in 1945 and blister, the next grade, 28 percent. In 1939 the respective tonnages were 5 and 73 percent.

The wire classification stood first in the export group again in 1945, having displaced refined copper in 1944; the refined class had dominated copper exports, usually by a very substantial margin since before 1900. The two-named classes, as well as virtually all others except rods, were shipped in smaller quantity in 1945 than in 1944.

Inventories of copper in virtually all hands gained in 1945 but fabricators indicated that the excess of booked orders over stocks, which had been declining since 1942, rose again in 1945.

Summary of features of the copper industry in the United States in 1943-45

	1943	1944	1945
Production of copper:			
Smelter output...... short tons	1,092,939	1,003,379	782,726
Mine production..... do.	1,090,818	972,549	772,894
Refinery production of new copper:			
Electrolytic 1/ .... do.	938,727	837,089	669,705
Lake 1/ .... do.	44,867	41,597	29,995
Casting............. do.	98,485	95,166	76,038
Total domestic...... do.	1,082,079	973,852	775,738
Total domestic and foreign do.	1,379,263	1,221,187	1,108,599
Copper ores, old tailings, etc., produced .... short tons	98,119,735	91,063,648	(2)
Average yield of copper .... percent	1.04	.99	(2)
Copper ores, old tailings, etc., concentrated short tons	92,246,622	86,392,852	(2)
Average yield of copper .... percent	.97	.94	(2)
Copper ores smelted .... short tons	2,151,187	1,539,436	(2)
Average yield of copper .... percent	3.64	3.84	(2)
Average price per pound cents	3/ 11.8	3/ 11.8	3/ 11.8
Imports (unmanufactured) short tons	716,654	785,366	853,196
Exports of metallic copper 4/ .... do.	294,459	237,515	132,545
Withdrawn from total supply on domestic account (new copper) .... do.	1,621,666	1,632,709	1,542,403
Stocks 5/ :			
At smelters and refineries:			
Refined .... do.	68,500	81,000	130,000
Blister and unrefined do.	241,000	311,000	323,000
Office of Metals Reserve refined 6/	224,081	347,304	499,871
Value of smelter production from domestic ores......	3/$257,934,000	3/$236,797,000	3/$184,723,000

1/ Some Michigan copper is electrolytically refined at eastern refineries and is included under electrolytic copper.
2/ Not yet available.
3/ Exclusive of bonus payments of the Office of Metals Reserve. Including bonus payments the averages were 13.0 cents in 1943 and 13.5 in both 1944 and 1945.
4/ Total exports of copper, exclusive of ore, concentrates, composition metal, and unrefined material.
5/ At the end of the year.
6/ Reported as "refined" but includes some unrefined; also covers a small quantity of metal held in Canada. Data are on an ownership basis and hence duplicate some of the tonnage (believed to be minor) shown under smelters and refineries.

Smelter and Mine Production

The smelter production of copper from domestic ores was 782,726 short tons in 1945, or a decrease of 22 percent from the 1,003,379 tons produced in 1944. The average price for copper delivered during the year, as reported to the Bureau of Mines by selling agencies, was 11.8 cents a pound, f.o.b. refinery, unchanged since 1941. This price is exclusive of bonus payments of the Office of Metals Reserve. Including bonus payments the averages were 13.5 cents in 1945, the same as in 1944, and 13.0 in 1943.

In 1945 the Bureau of Mines discontinued the compilation of smelter data by States of origin, because there was insufficient difference between smelter and mine figures to justify the work involved. Mine production figures, by States, are given in the following table.

Mine production of recoverable copper in the United States, 1941-45, by States, in short tons

State	1941	1942	1943	1944	1945
Alaska............	72	22	27	2	5
Arizona...........	326,317	393,387	403,181	358,303	287,203
California........	3,943	1,058	8,762	12,721	6,473
Colorado..........	6,748	1,102	1,028	1,048	1,485
Idaho.............	3,621	3,430	2,324	1,688	1,548
Michigan..........	46,440	45,679	46,764	42,421	30,401
Missouri..........	1,400	1,300	1,340	3,302	3,399
Montana...........	128,036	141,194	134,525	118,190	88,506
Nevada............	78,911	83,663	71,068	61,232	52,595
New Mexico........	73,478	80,100	76,163	69,730	56,571
North Carolina....	(1)	(1)	(1)	(1)	--------
Oregon............	83	103	6	3	1
Pennsylvania......	(1)	(1)	(1)	(1)	(2)
South Carolina....	(3)	(3)	(3)	--------	--------
South Dakota......	--------	1	--------	1	--------
Tennessee.........	1/ 13,566	1/ 14,174	1/13,855	1/12,860	2/ 12,385
Texas.............	6	99	81	115	55
Utah..............	266,838	306,691	323,989	282,575	226,376
Vermont...........	--------	--------	290	1,898	(2)
Virginia..........	--------	28	100	291	70
Washington........	8,686	8,030	7,315	6,169	5,821
Wyoming...........	4	--------	--------	--------	--------
	958,149	1,080,061	1,090,818	972,549	772,894

1/ North Carolina and Pennsylvania included under Tennessee. Bureau of Mines not at liberty to publish separate figures.
2/ Pennsylvania and Vermont included under Tennessee. Bureau of Mines not at liberty to publish separate figures.
3/ Less than 1 ton.

Refined Copper

The total production of new refined copper in 1945 was 1,108,599 short tons, a decrease of 112,588 tons, or 9 percent, from that for 1944.

Primary and secondary copper produced by regular refining plants and imported, 1943-45, in short tons

	1943	1944	1945
Primary:			
Domestic 1/:			
Electrolytic 2/	938,727	837,089	669,705
Lake 2/	44,867	41,597	29,995
Casting	98,485	95,166	76,038
	1,082,079	973,852	775,738
Foreign 1/:			
Electrolytic	297,184	247,335	298,128
Casting	----------	----------	34,733
Refinery production of new copper	1,379,263	1,221,187	1,108,599
Imports of refined copper	402,762	492,395	531,367
Total new refined copper made available	1,782,025	1,713,582	1,639,966
Secondary:			
Electrolytic 3/	114,259	78,402	4/ 84,044
Casting	8,205	7,996	12,618
	122,464	86,398	96,662
Grand total	1,904,489	1,799,980	1,736,628

1/ The separation of refined copper into metal of domestic and foreign origin is only approximate, as an accurate separation of the amounts at this stage of manufacture is not possible.

2/ Some copper from Michigan is electrolytically refined at an eastern refinery and is included as electrolytic copper.

3/ Includes some secondary Lake copper.

4/ Copper from scrap at Lake refineries included under "casting" copper in 1945.

In addition to their output of metallic copper the regular refining companies produced bluestone (hydrous copper sulfate) having a copper content of 8,237 short tons as compared with 8,269 tons in 1944. Other companies reported 23,154 and 17,377 tons, respectively, in the two years.

Stocks

Stocks of copper at primary smelting and refining plants in the United States, and those of the Office of Metals Reserve at the end of the year, 1941-45, in short tons

Year	Smelters and refineries		Metals Reserve 2/
	Refined copper	Blister and material in process of refining 1/	
1941	77,500	240,000	----------
1942	84,000	235,500	91,472
1943	68,500	241,000	224,081
1944	81,000	311,000	347,304
1945	130,000	323,000	499,871

1/ Excludes copper in transit from foreign smelters to refineries in the United States.

2/ Reported as "refined" but includes some unrefined; also covers a small quantity of metal held in Canada. Data are on an ownership basis and hence duplicate some of the tonnage (believed to be minor) shown under smelters and refineries.

Consumption

The new refined copper withdrawn from the total year's supply on domestic account in the United States in 1945 and the method employed in determining it are shown in the following table, which does not include stocks of copper held by consumers or by the Office of Metals Reserve, except that part of stocks at refineries that is for Office of Metals Reserve account.

New refined copper withdrawn from total year's supply on domestic account, 1943-45, in short tons

	1943	1944	1945
Total supply of new copper............	1,782,025	1,713,582	1,639,966
Stocks at beginning of year...........	84,000	68,500	81,000
Total available supply...........	1,866,025	1,782,082	1,720,966
Copper exported 1/	175,859	68,373	48,563
Stock at end of the year..............	68,500	81,000	130,000
	244,359	149,373	178,563
Withdrawn on domestic account.........	1,621,666	1,632,709	1,542,403

1/ Includes refined copper in ingots, bars, or other forms.

Imports and Exports

The figures of imports and exports of copper reported by the United States Department of Commerce are shown in the following tables:

Copper (unmanufactured) imported into the United States, 1945, in short tons 1/

County	Ore (copper content)	Concentrates (copper content)	Regulus, black or coarse copper (copper content)	Unrefined black blister and converter in pigs or converter bars	Refined in ingots, plates, or bars	Old and clippings for remanufacture
Africa (British):						
Northern Rhodesia 2/	------	414	8	64,374	25,166	------
Union of South.....	------	150	19	6,114	783	------
Australia............	(3)	102	909	------	------	137
Belgian Congo........	------	------	18,084	29,758	4/41,782	------
Bolivia..............	350	4,579	10	------	------	------
Canada...............	------	13,117	456	------	76,392	1,186
Chile................	7,185	5,190	------	54,855	384,843	------
Cuba.................	216	9,206	------	------	------	------
Ecuador..............	------	4	------	3,622	------	------
Mexico...............	121	7,599	8	58,841	44	------
Mozambique...........	------	------	------	------	1,665	------
Newfoundland and Labrador............	------	4,463	------	------	------	------
Peru.................	983	3,795	368	25,537	692	------
Other countries......	3	13	------	------	------	53
	8,858	48,632	19,862	243,101	531,367	1,376

1/ Data include copper imported for immediate consumption plus material entering the country under bond.

2/ Tonnages credited to Southern Rhodesia by the U. S. Department of Commerce have been added to Northern Rhodesia.

3/ Less than 1 ton.

4/ Refined copper credited to Portuguese Guinea and Angola by the U. S. Department of Commerce has been added to Belgian Congo.

Copper exported from the United States, 1945, in short tons

Country	Ore, concentrates, composition metal and unrefined copper. (copper content)	Refined		Old and scrap	Pipes and tubes	Plates and sheets	Wire (except insulated)	Insulated wire and cable
		Bars, ingots, or other forms	Rods					
Algeria	———	595	31	———	97	30	79	330
Argentina	———	(1)	———	———	18	2	87	169
Australia	(1)	169	(1)	———	1	(1)	10	156
Belgian Congo	———	6	(1)	———	4	3	23	108
Belgium and Luxembourg	———	1,680	———	———	———	———	———	———
Brazil	———	5,674	347	———	726	878	31	174
Canada	1	55	120	19	315	82	153	1,025
Chile	———	4	5	———	46	7	130	743
China	———	542	3	———	51	241	455	240
Colombia	———	183	1	———	71	573	589	1,587
Cuba	2	8	9	———	768	103	495	1,710
Egypt	———	6	———	———	2	2	11	91
France	———	3,646	(1)	———	(1)	———	6	823
Iceland	———	———	———	———	18	3	65	748
India and Dependencies	———	1	———	———	12	8	51	2,745
Mexico	1	5,690	35	1	342	249	———	1,400
Morocco (French)	———	1	2	———	47	31	64	68
New Zealand	———	———	———	———	(1)	9	616	189
Norway	———	———	1,548	———	———	———	11	58
Panama: Republic of	———	1	———	———	34	27	9	224
Peru	———	2	2	———	31	34	145	680
Sweden	———	1,432	2,240	———	2	———	5	29
Switzerland	———	4,088	———	113	———	———	503	———
U. S. S. R.	———	220	1	———	1,060	529	5,592	36,707
United Kingdom	30	19,281	(1)	———	(1)	21	(1)	2,702
Uruguay	———	176	1	———	74	62	168	1,073
Venezuela	———	56	3	(1)	110	247	308	1,408
Other countries	———	5,047	661	———	358	656	1,858	4,205
	34	48,563	5,009	133	4,187	3,797	11,464	59,392

1/ Less than one ton.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

J. A. KRUG, Secretary
R. R. SAYERS, Director

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MINERAL MARKET REPORTS
M. M. S. NO. 1441

LEAD INDUSTRY IN 1945

Despite huge reductions in military requirements immediately following victory in both the European and Pacific phases of the war, the supply of lead available for industrial consumption throughout 1945 was seriously short of demand, according to the Bureau of Mines, United States Department of the Interior. Domestic mine production, the largest single source of supply, continued to decline. Imports of lead-bearing materials so urgently needed to offset the decreasing domestic mine output dropped to the lowest level since 1940. Consumption of refined lead, although 12 percent less than in 1944, continued at a high level and to meet demands for essential military and civilian use monthly allocations were made from Government stocks of refined lead. Lead continued under Government control during 1945, through provisions of War Production Board (succeeded by Civilian Production Administration, November 3) General Preference Order M-38. The established ceiling price of 6.50 cents a pound for lead at New York remained unchanged throughout the year, and payments under the Premium Price Plan continued to be made by the Office of Metals Reserve (successor July 1, 1945 to the Metals Reserve Company).

Production. - The mine production of recoverable lead (including that made into pigments) from domestic mines in the United States and Alaska was 390,831 short tons, a decline of 6 percent from 1944, and 21 percent below the war-period peak in 1942. Missouri again ranked first in the production of lead and the Southeastern Missouri district continued to be the largest lead-producing area, supplying 44 percent of the total domestic output. The Western States accounted for 47 percent of the total production despite a decline of 12 percent from 1944. Idaho continued to be the largest producer of lead in the Western States and second largest in the United States notwithstanding a decline of 18 percent to the smallest output since 1899.

Primary refineries in the United States in 1945 produced 462,110 short tons of refined lead, a decline of 3 percent from the 1944 output. Of the 443,585 tons of primary lead produced in 1945, domestic ores and base bullion supplied 80 percent, and 20 percent was derived from foreign ores and imported base bullion, compared with 85 and 15 percent, respectively, in 1944. Antimonial lead production at primary refineries decreased 2 percent to 56,495 tons in 1945. The average antimony content dropped to 7.3 percent due to a greater demand for low-percentage alloys for use in the manufacture of such items as type metal, solder, sheet and pipe, and collapsible tubes and foil.

Prepared by Richard H. Mote, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Stocks. - Producers' stocks of refined lead increased 125 percent, according to reports submitted to the Bureau of Mines, and inventories of primary antimonial lead (in terms of lead content) increased 100 percent. Consumers' stocks recorded a net increase of 19 percent during the year. Industry-owned stocks were augmented by a supply of Government-owned refined lead stored at strategic points throughout the United States for allocation to consumers as needed. According to reports submitted to the Civilian Production Administration, Government stocks of refined lead, mostly of corroding grade and from foreign sources declined 24 percent to 68,700 short tons on December 31, 1945 -- slightly more than a month's supply at the average rate of consumption during the year.

Consumption. - A survey of 570 plants in 1945 representing an estimated 90 percent of the consumers of refined lead indicated a total consumption of 637,499 short tons of refined lead, a decrease of 12 percent from 1944. Some secondary as well as primary refined lead is included in this figure. Antimonial lead, unrefined scrap lead, and lead in alloys are excluded. Of the total consumed, 25 percent was used to make red lead and litharge, 14 percent for cable covering, 12 percent for tetraethyl fluid, 9 percent for storage batteries, 5 percent for white lead, 5 percent for sheet lead, 5 percent for ammunition, and the remaining 25 percent for a variety of products and uses. A distribution of the total consumed by related uses indicates 49 percent consumed for metallic products, 30 percent for pigments, 13 percent in chemical products, and 8 percent in miscellaneous uses, such as annealing, galvanizing, lead plating, and weights and ballast.

In 1945 the calculated supply of refined primary lead made available for shipment to consumers was 670,499 tons, 13 percent under the comparable 1944 total. This figure of apparent shipments (based on production, net change in producers' and Government-owned stocks, and net imports) is probably more nearly correct than the actual receipts of 653,805 tons reported by consumers because of incomplete coverage of the survey.

Prices. - The ceiling price for common lead -- 6.35 cents a pound, St. Louis, and 6.50 cents, New York -- remained unchanged throughout 1945. The average price received by the primary producers for all grades of refined lead (excluding antimonial lead) sold remained at 6.4 cents a pound, f.o.b. plant. According to preliminary data from the Office of Price Administration, payments amounting to $17,429,467 were made by the Office of Metals Reserve for over-quota mine production and special mine contracts in 1945. The official London maximum price of £ 25 per long ton, duty paid, for Empire and foreign lead, fixed by the British Ministry of Supply in December 1939 was advanced to £ 30 on June 11, 1945. Quotations of the London Metal Exchange, discontinued at the outbreak of the war in September 1939, were not resumed during 1945.

Foreign trade. - During 1945 imports of lead dropped to the lowest level since 1940 and were 39 percent below the record total of 1942. As in previous years the greater part of the lead imported was in the form of pigs and bars, over 70 percent of which came from Mexico and virtually all the remainder from Peru, Canada, and Australia. Receipts of lead in ore and matte, which constituted 23 percent of the total imports, were 25 percent under 1944, due largely to a sharp decrease in imports from Australia and Newfoundland which more than offset a substantial increase from Peru and Argentina. Imports of lead in base bullion, all from Mexico, dropped to 8 tons. Four countries supplied 91 percent of the total lead in all forms imported in

1945: Mexico 54 percent, Peru 16, Australia 11, and Canada 10, compared with 54, 21, 10, and 3 percent, respectively, for a total of 88 percent in 1944. Exports of pig lead in 1945 dropped to 9 percent of the 1944 total due almost entirely to the sharp decline in shipments to the U. S. S. R.

Table 1. - Refined lead produced at primary refineries in the United States, by sources, 1944-1945, in short tons

Source	1944	1945
Refined lead:		
From domestic ores and base bullion.............	394,443	356,535
From foreign ores................................	70,225	86,932
From foreign base bullion........................	95	118
Total from primary sources.................	464,763	443,585
From scrap.......................................	11,368	18,525
Total refined lead.........................	476,131	462,110
Average sales price per pound....................	$0.064	$0.064
Total calculated value of primary refined lead 1/.	$59,490,000	$56,778,880

1/ Excludes value of refined lead produced from scrap at primary refineries.

Table 2. - Antimonial lead produced at primary lead refineries in the United States, 1944-1945, in short tons

Year	Production	Lead content				Antimony content		
		From domestic ore	From foreign ore	From scrap	Total	From domestic and foreign ore 1/	From scrap	Total
1944..	57,902	13,280	5,477	34,475	53,232	2,857	1,813	4,670
1945..	56,495	7,286	2,695	42,366	52,347	1,992	2,156	4,148

1/ Includes production from foreign base bullion and domestic primary smelter residues.

Table 3. - Stocks of lead held at primary smelters and refineries at end of year, 1944-1945, lead content, in short tons

	Refined lead 1/	Antimonial lead	In ore, concentrates, etc. 2/	In base bullion 2/
Dec. 31, 1944.....	16,788	3,387	60,480	6,606
Dec. 31, 1945.....	37,690	6,773	59,095	7,125

1/ Gross weight.
2/ Excluding material in process.

Table 4. - Consumers' stocks of refined lead at end of year, 1944-1945, by grades, in short tons

	Domestic and foreign					Foreign (all grades)
	Corroding	Chemical	Common	Other	Total	
December 31, 1944 1/	28,028	12,965	42,863	3,052	86,908	9,730
December 31, 1945..	32,395	21,520	47,735	1,564	103,214	6,692

1/ Revised figures.

Table 5. - Consumption of refined lead in the United States 1944-1945, by uses, in short tons

	1944	1945
Ammunition................................	31,479	29,315
Bearing metal.............................	15,941	14,104
Brass and bronze..........................	7,845	7,069
Cable covering............................	110,417	86,158
Calking lead..............................	9,411	13,374
Casting metals............................	4,425	5,322
Collapsible tubes.........................	12,482	7,428
Foil......................................	11,190	2,185
Pipe, traps, and bends....................	24,387	24,061
Sheet lead................................	31,546	30,624
Solder....................................	22,390	27,475
Storage batteries.........................	68,769	60,179
Terne plate...............................	2,190	2,178
Type metals...............................	1,269	1,401
White lead................................	54,333	35,611
Red lead and litharge.....................	157,080	157,171
Tetraethyl lead...........................	83,067	75,890
Chemicals and insecticides................	10,703	8,567
Annealing.................................	5,719	5,525
Galvanizing...............................	1,073	988
Lead plating..............................	494	1,130
Weights and ballast.......................	22,964	9,539
Other.....................................	33,646	32,205
Total.................................	722,820	637,499

Table 6. - Imports and exports of lead in 1944 and 1945 1/
in short tons

	1944	1945
Imports (General 2/):		
In ore and matte................................	93,570	70,005
In base bullion.................................	58	8
Pigs and bars...................................	222,758	227,469
In reclaimed, scrap, etc........................	3,315	2,844
Imports (for consumption 3/):		
In ores, flue dust, and matte...................	100,846	71,046
In base bullion.................................	73	20
Pigs and bars...................................	223,379	227,311
Sheets, pipe, and shot..........................	40	14
In babbitt, solder, white metal, etc............	18	73
In type metal and antimonial lead...............	7,174	24,706
Exports:		
Pigs and bars...................................	15,523	1,407
Foreign pig lead re-exported....................	(4)	377

1/ Figures on imports and exports compiled from records of the U. S. Department of Commerce.

2/ General imports include material imported for immediate consumption plus material entering country under bond.

3/ Imports for consumption include material for which duty has been paid irrespective of the actual date of importation.

4/ Less than 1 ton.

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ZINC INDUSTRY IN 1945

Despite operational problems contingent upon reconversion from a wartime to peacetime basis and a persistent shortage of mine and smelter labor, the zinc industry continued to fulfill both civilian and military needs in 1945, according to the Bureau of Mines, United States Department of the Interior. Production and imports decreased but the over-all new supply was sufficient to balance high consumption requirements and provide an excess which augmented stocks already at record levels. Domestic mine output was 15 percent less than in 1944 and total smelter production of primary slab zinc from domestic and foreign ores was 12 percent lower although at a higher level than in prewar years. Imports of zinc in ores and concentrates and as slab zinc declined 2 percent from 1944 and 20 percent from the record established in 1943. Galvanizing, which was displaced in 1942 by brass products, returned to first place in 1945 as the principal use of zinc. The established ceiling price of 8.25 cents a pound for Prime Western zinc at St. Louis remained unchanged during 1945, and payments under the Premium Price Plan for over-quota mine production continued to be made by the Office of Metals Reserve (successor July 1, 1945 to the Metals Reserve Company). During 1945 all Federal Government controls on zinc were eliminated.

Production. - Mine production of recoverable zinc (including that recovered as zinc pigments and salts directly from ore) was 614,344 short tons in 1945, a decrease of 15 percent from 1944 and the smallest since 1939. The continued drop in production from the wartime peak in 1942 was principally due to manpower shortages, reportedly the most severe in 1945 of any year during the war period. Oklahoma, the leading zinc-producing State since 1918 (except for 1931 and 1932 when New Jersey ranked first), dropped to third place in 1945, below Idaho and New Jersey. The Western States contributed 48 percent of the total domestic output (46 percent in 1944) despite a 10-percent decline in production. Idaho continued to be the largest producer among the Western States, and, for the first time, ranked first among the States in the United States. Zinc production in the Central States, smallest since 1934, decreased 23 percent from the 1944 output. The Tri-State (Joplin) region maintained its position as the principal zinc-producing district, with 23 percent (26 percent in 1944) of the total United States output.

The output of primary slab zinc in 1945, the smallest since 1940, dropped 12 percent below the 1944 production. Production of redistilled slab zinc from zinc scrap remained virtually unchanged. Of the 49,242 short tons of redistilled secondary slab zinc produced, 21,205 tons (43 percent) were derived from primary smelters and 28,037 tons (27 percent) were produced at secondary plants. Data on the output of remelted secondary slab zinc are not included with those for redistilled metal. Pennsylvania was the leading producer of slab zinc in 1945, thus regaining the rank held every year but two since 1934. Montana which displaced Pennsylvania in 1943, dropped to second place and was followed by Illinois.

Prepared by Richard H. Mote and Esther B. Miller, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Zinc-reduction plants. - There was no change during 1945 in the number of active primary zinc-reduction plants. For the past four years there have been 22 commercial plants in operation, of which 13 operated with horizontal retorts exclusively, 1 with both horizontal and vertical retorts, 3 with vertical retorts exclusively (1 electrothermic), and 5 with electrolytic methods. The total number of retorts reported at horizontal-retort primary plants in 1945 was 74,120, an increase of 3 percent over the 71,912 at these plants on December 31, 1944. Of the total retorts reported, 53,932 were in use at the close of 1945. Four vertical-retort continuous distilling plants operated during 1945. The St. Joseph Lead Co. operated its 9 electrothermic units at Josephtown, Pennsylvania at near capacity throughout the year. Of the 66 vertical retorts at the remaining 3 plants, 61 were in operation on December 31, 1945. Five electrolytic plants were in operation during 1945. There were 3,210 cells at the plants on December 31, 1945, of which 3,184 were in operation.

Smelting capacity. - At the close of 1945 zinc-reduction plants were operating at an indicated 77 percent of a reported 1,054,000-ton capacity. Horizontal- and vertical-retort plants operated at 77 percent of a stated 672,000-ton capacity, electrolytic plants at 80 percent of a 338,000-ton capacity, and secondary smelters at 64 percent of a 44,000-ton capacity.

Stocks. - Inventories of slab zinc at producers' plants continued to increase in 1945 and by December 31 were 10 percent above the previous year-end record total. Nearly the entire gain can be accounted for by the accumulation of Brass Special and High Grade zinc.

Stocks of slab zinc at consumers' plants increased moderately in 1945, the total on December 31 being 14 percent over the quantity on hand at the beginning of the year. Inventories increased abruptly from the low point at the first of the year to a high of about 103,350 tons on April 30 followed by a general downward trend during the remainder of the year. A 24-percent drop in slab zinc inventories at brass mills, ingot makers, and foundries reflects the sharp reduction in military requirements for zinc in the manufacture of brass following termination of the war. Exclusive of an indeterminate quantity in bonded warehouses, the approximate total slab zinc in stock (including company- and Government-owned stocks at producers' plants) on December 31, 1945, was 351,000 tons compared with 318,000 tons at the end of 1944.

Consumption. - According to reports from 690 plants, representing an estimated 98 percent of the consuming industry in the United States, a total of 852,311 tons of slab zinc (including 5,111 tons of purchased remelt spelter) were put in process in 1945, a 4-percent decline from the record attained in 1944. The apparent discrepancy between this figure and the calculated 883,160 tons of primary and secondary slab zinc and remelt spelter shipped to domestic consumers in 1945 can be attributed to incomplete coverage of the survey, variations in the quantity of metal in transit from producer to consumer at the beginning and end of the year, and unaccounted for slab zinc stored in bonded warehouses. Galvanizing regained its position as the principal use of slab zinc; the quantity consumed for this purpose in 1945 gained 7 percent over 1944. The use of slab zinc for brass products, through cutbacks in military orders for cartridge brass, declined 32 percent during the year. The quantity of zinc used for zinc-base alloys was 55 percent greater than in 1944 whereas zinc for French-process oxide declined 10 percent. Zinc for rolled products continued to gain in 1945; the quantity used for this purpose was 28 percent greater than in 1944.

Prices. - The base ceiling price of 8.25 cents a pound for Prime Western grade slab zinc at St. Louis and $55.28 per ton of 60-percent concentrates at Joplin, Missouri remained unchanged throughout 1945. In comparison, the weighted average price received by the producers for all grades of zinc sold in 1945 was 8.6 cents a pound, f.o.b. plants, as in 1944 and in 1943. According to preliminary data from the Office of Price Administration payments amounting to $36,205,177 were made by the Office of Metals Reserve for over-quota mine production and special mine contracts in 1945. The official London maximum price of £25 15s per long ton, duty paid, for foreign zinc delivered to consumers, and £26 10s for domestic metal including secondary, fixed by the British Ministry of Supply in December 1939 was advanced to £31 5s and £32 0s, respectively, on June 11, 1945. Quotations of the London Metal Exchange, discontinued at the outbreak of the war in September 1939, were not resumed during 1945.

Foreign trade. - Total imports of zinc in ores and concentrates declined 10 percent from 1944 and 29 percent from the record established in 1943. Of the 381,719 short tons of zinc imported in ores and concentrates in 1945, 46 percent came from Mexico, 24 percent from Canada, 11 percent from Bolivia, 9 percent from Peru, 6 percent from Newfoundland and Labrador, and 4 percent from Australia. Imports of slab zinc increased 53 percent over 1944 due to a 157-percent gain in imports from Canada and a 222-percent increase in slab zinc from Australia which more than offset a decline in Mexican imports. Slab zinc continued to be the largest export item, but the total shipped to foreign countries declined 64 percent to the lowest level since 1939. The principal countries of destination of the 7,782 short tons exported were France, Belgium, and Switzerland.

Table 1. - Primary and redistilled secondary slab zinc produced in the United States, 1944-1945, in short tons

Year	Primary			Redistilled secondary	Total (excludes remelted)
	Domestic	Foreign	Total		
1944.............	574,453	1/294,849	869,302	49,037	918,339
1945.............	467,084	1/297,477	764,561	49,242	813,803

1/ Includes a small tonnage of foreign slab zinc further refined into high-grade metal in the United States.

Table 2. - Distilled and electrolytic zinc, primary and secondary, produced in the United States, 1944-1945, in short tons

A. - Classified according to method of reduction

Year	Electrolytic primary	Distilled primary	Redistilled secondary		Total
			At primary smelters	At secondary smelters	
1944.......	317,388	551,914	24,673	24,364	918,339
1945.......	269,924	494,637	21,205	28,037	813,803

B. - Classified according to grade

	Special High Grade	Regular High Grade	Intermediate	Brass Special	Selected	Prime Western	Total
1944.......	251,210	251,595	55,928	54,396	24,396	280,814	918,339
1945.......	220,241	191,639	49,106	75,749	17,367	259,701	813,803

Table 3. - Primary slab zinc produced in the United States, by States where smelted 1/, 1944-1945, in short tons

State	1944	1945
Arkansas	31,350	29,391
Idaho	2/ 36,562	2/ 33,110
Illinois	3/155,362	3/124,904
Montana	2/224,391	2/179,251
Oklahoma	4/107,364	106,115
Pennsylvania	4/206,315	200,709
Other States 5/	4/6/107,958	6/ 91,081
Total	4/ 869,302	764,561

1/ Final-stage production; includes high-grade zinc refined from lower grades, but excludes lower grades consumed for this purpose.
2/ Produced by electrolytic process only.
3/ Produced by electrolytic and retort processes.
4/ Revised figures.
5/ Texas and West Virginia; also Missouri in 1944.
6/ Includes electrolytic zinc produced in Texas.

Table 4. - Average price received by producers for zinc, 1944-1945, by grades, in cents per pound, and value of total output

Year	Special High Grade	Regular High grade	Intermediate	Brass Special	Selected	Prime Western	Average all grades	Value of total output
1944	8.90	8.62	8.74	8.48	8.27	8.24	8.6	$157,954,000
1945	8.89	8.60	8.66	8.48	8.32	8.24	8.6	139,974,000

Table 5. - Stocks of slab zinc on hand at zinc-reduction plants in the United States at end of year 1944-1945, in short tons

	1944	1945
At primary reduction plants	233,044	254,765
At secondary distilling plants	652	1,451
Total	233,696	256,216

Table 6. - Stocks of slab zinc on hand at consumers' plants in the United States at end of year, by industries, 1944-1945, in short tons

	Galvanizers	Die casters 1/	Brass mills 2/	Zinc rolling mills	Oxide plants	Others	Total
Dec. 31, 1944 3/	27,129	5,294	25,052	4,972	786	1,539	4/64,772
Dec. 31, 1945	33,915	11,900	18,951	6,317	612	1,848	4/73,543

1/ Includes producers of zinc-base die castings, zinc alloy dies, and zinc alloy rods.
2/ Includes brass mills, brass ingot makers, and brass products.
3/ Revised figures.
4/ Stocks on December 31, 1944 and 1945 exclude 482 tons and 428 tons, respectively, of remelt spelter.

Table 7. - Consumption of slab zinc in the United States in 1944 and 1945, by industries, in short tons 1/

Industry and product	1944	1945
Galvanizing: 2/		
Sheet and strip	119,381	135,383
Tubes and pipe	50,472	46,083
Wire and wire rope	44,350	63,163
Wire cloth	(3)	(3)
Fittings	14,113	10,014
Other 4/	87,675	82,538
Total	315,991	337,181
Brass products:		
Sheet, strip, and plate	246,402	146,375
Rod and wire	70,970	67,299
Tube	27,725	21,507
Castings and billets	16,703	12,942
Copper-base ingots	17,174	9,893
Other copper-base products	2,953	1,361
Total	381,927	259,377
Zinc-base alloy:		
Die castings	76,201	121,966
Alloy dies and rod	8,245	8,286
Slush and sand castings	75	584
Total	84,521	130,836
Rolled zinc	76,524	97,589
Zinc oxide	20,198	18,113
Other uses:		
Slush castings	(5)	(5)
Wet batteries	2,174	1,790
Desilverizing lead	2,051	2,095
Light-metal alloys	2,047	1,469
Miscellaneous 6/	3,193	3,861
Total	9,465	9,215
Total: All uses	7/888,626	7/852,311

1/ Based on a canvass of 690 plants.
2/ Includes zinc used in electrogalvanizing, but excludes sherardizing.
3/ Separate figures not available but included in the total.
4/ Includes miscellaneous articles not elsewhere mentioned.
5/ Included under "Zinc-base alloy".
6/ Includes zinc used in making zinc dust, bronze powder, alloys, chemicals, castings and miscellaneous uses not elsewhere mentioned.
7/ Includes 6,982 tons of remelt zinc in 1944 and 5,111 tons in 1945.

Table 8. - Imports and exports of zinc, 1944-1945 1/
in short tons

	1944	1945
Imports (General 2/):		
Ore (zinc content)	422,699	381,719
Slab zinc	63,626	97,116
Imports (for consumption 3/):		
Ore (zinc content)	415,004	330,397
Slab zinc	63,626	96,710
Sheets	15	(4)
Old, dross, and skimmings	5,603	7,331
Zinc dust	—	362
Exports:		
Ore, and dross (zinc content)	(4)	(4)
Slab zinc	21,576	7,782
Sheets, strips, or other forms, n.e.s.	4,020	6,235
Zinc dust	295	330

1/ Figures on imports and exports compiled from records of the U. S. Department of Commerce.

2/ Data include material imported for immediate consumption plus material entering country under bond.

3/ Data include material for which duty has been paid in the year noted, irrespective of date of importation.

4/ Less than 1 ton.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

J. A. KRUG, Secretary
R. R. SAYERS, Director

AUG 7 1946

For release July 31, 1946.

MINERAL MARKET REPORTS
M. M. S. NO. 1443

PRODUCTION OF ROLLED ZINC INCREASED 28 PERCENT IN 1945

Removal of Government control over the consumption of slab zinc in 1945 resulted in a 28-percent gain in the quantity of zinc used for the production of rolled zinc, according to the Bureau of Mines, United States Department of the Interior. The total value of the rolled products was 30 percent more than in 1944, the increase being greater than the gain in quantity owing to a slight advance in the average price.

The quantity of rolled zinc produced in 1945 totaled 98,384 short tons valued at $24,717,979 compared with 76,489 tons valued at $19,020,000 in 1944. The output of sheet zinc and strip and ribbon zinc increased 54 and 33 percent, respectively, whereas the production of boiler plate declined 49 percent. Strip and ribbon zinc was still the largest item produced, accounting for 78 percent of the total production (76 percent in 1944).

During 1945, the rolling mills reported the consumption of 97,589 tons of slab zinc (including 4 tons of remelt spelter) and 3,652 tons of purchased zinc scrap compared with 76,524 tons of slab zinc (including 74 tons of remelt spelter) and 1,786 tons of purchased zinc scrap in 1944. In addition 31,968 tons of strip and ribbon zinc was remelted and rerolled from scrap originating in fabricating plants operated in connection with zinc rolling mills.

The following grades of slab zinc were used:

	Percent of total	
	1944	1945
Special High Grade	4	4
Regular High Grade	38	45
Intermediate	12	21
Brass Special	34	28
Selected	0	1/
Prime Western	12	2
Remelt	1/	1/
	100	100

1/ Less than 1 percent.

Prepared by Richard H. Mote, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Inventories of slab zinc on hand at rolling mills were 4,972 tons (revised) at the beginning, and 6,317 tons at the end of 1945. Stocks of rolled zinc were 1,700 tons (revised) and 1,885 tons at the beginning and end of the year, respectively.

Production of rolled zinc
in the United States, 1944-1945

	1944			1945		
		Value			Value	
	Short tons	Total	Average per pound	Short tons	Total	Average per pound
Sheet zinc not over 0.1 inch thick	10,902	$3,154,000	$0.145	16,746	$4,624,274	$0.138
Boiler plate & sheets over 0.1 inch thick.........	5,998	1,365,000	.114	3,057	717,301	.117
Strip & ribbon zinc 1/...........	58,230	13,997,000	.120	77,175	18,817,191	.122
Foil, rod, and wire.	1,359	504,000	.185	1,406	559,213	.199
Total rolled zinc.	76,489	19,020,000	.124	98,384	24,717,979	.126
Imports.............	15	2,500	.085	2/	----------	----
Exports.............	3,403	878,700	.129	5,418	1,484,826	.137
Available for consumption 3/........	72,749	----------	----	98,199	----------	----
Value of slab zinc (all grades).......	------	----------	.086	------	----------	.086
Value added by rolling............	------	----------	.038	------	----------	.040

1/ Figures represent net production. In addition, 21,555 tons of strip and ribbon zinc in 1944 and 31,968 tons in 1945 were rerolled from scrap originating in fabricating plants in connection with zinc rolling mills.
2/ Less than 1 ton.
3/ Allowances made for change in producers' stocks of rolled zinc.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

J. A. KRUG, Secretary **R. R. SAYERS, Director**

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FOR RELEASE JULY 29, 1946.

MINERAL MARKET REPORT
M.M.S. NO. 1445

DISTRIBUTION OF BYPRODUCT AND BEEHIVE COKE IN THE UNITED STATES, 1945

INTRODUCTION

This report is the result of a statistical survey on distribution of byproduct and beehive coke produced in the United States during 1945 and is the tenth of a series of such studies conducted by the Bureau of Mines, United States Department of the Interior. In this series, the Bureau has received and appreciates the cooperation of producing companies that have furnished detailed information on use classification and State destinations of their product.

The coke covered in this report is that produced by the byproduct- and beehive-coke industries and does not include coke made in coal-gas retorts, petroleum and tar refineries, or reclaimed beehive coke. The present study contains statistical summaries on the distribution of coke, by States and by principal uses, tonnages consumed in each State grouped in nine geographical regions, and the origin and destination of shipments. It is believed that these summaries indicate the approximate size and nature of the market for coke in a given State as well as principal sources and respective consuming areas they serve. The consumption figures include shipments of coke from producing States to destinations, or consuming States, plus coke produced in the State but not shipped therefrom. These figures are, therefore, indicative of the consumption in each State and for practical purposes the terms "consumption" and "distribution" are synonymous.

Table 1, pages 8 and 9, shows the total tonnage of coke and breeze consumed in each State in 1945 with a breakdown of the large coke by principal uses; table 2, pages10 and11, coke consumed in nine geographical regions, by States, by major uses, for the years 1940 and 1945; table 3, pages 12 to 22, the consumption of coke and breeze in each State, by State of origin, and by use; and table 4, pages 23 to 28, the quantity of coke and breeze consumed in coke-producing States and tonnages shipped to other States according to the use designated when ordered. All figures are in short, or net, tons of 2,000 pounds.

GENERAL SUMMARY

The distribution of coke, which increased steadily with greater production each year during the war period, reaching a record level in 1944, subsided markedly in 1945. This was due not only to the abrupt transition from war to peace production following V-J Day but also to mine stoppages in October which curtailed shipments of bituminous coal to coke plants; failure of old byproduct coke-oven batteries which had been pushed hard during the war; and to the closing down of a number of beehive-coke plants because of labor difficulties and a lack of coal. As a consequence, total consumption of coke in the United States in 1945 decreased 9 percent from the peak attained in 1944 and amounted to 66,448,258 tons. Although consumption of large coke showed a sharp decline, the quantity of coke breeze distributed within the United States increased 3 percent in the same period and totaled 5,320,257 tons. Shipments of coke and coke breeze to foreign countries, as reported by the producers, registered large increases and were 31 percent and 68 percent, respectively, above the quantities exported in 1944.

As shown in the summary table, utilization of large coke in iron blast furnaces in 1945 constituted nearly 76 percent of the total deliveries but the tonnage involved

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By M. M. Otero and J. A. DeCarlo, Anthracite and Coke Section, J. A. Corgan, Chief. Coal Economics Division, Economics and Statistics Branch.

was 11 percent below that of 1944 (Fig. 1). The decline in consumption of coke for furnace use was general throughout the United States ranging from 3 percent in Texas to 21 percent in Minnesota. The blast furnace at Everett, Massachusetts, ceased operation in the latter part of 1944 and, therefore, Massachusetts dropped from the list of States consuming blast-furnace coke in 1945. A slight increase was recorded in shipments to iron foundries in the United States and foreign shipments of foundry coke increased 59 percent in the same period. The domestic coke trade received 10 percent of the byproduct and beehive coke, excluding breeze, distributed in 1945 and although shipments of domestic coke within the United States dropped slightly from the 1944 deliveries, exports offset this slight decrease and total deliveries were 57,965 tons higher than for the preceding year. Total deliveries of domestic coke, however, were far below the prewar tonnage of 1940 and were 33 percent less than for 1936, when domestic coke shipments were the highest ever reported in these surveys. The use of coke in the manufacture of producer gas, water gas, and other industrial uses (non-ferrous smelting, lime burning, etc.) in 1945 varied only slightly from the combined total of these uses in 1944, and the tonnage was equivalent to 10 percent of the total coke distribution, the same proportion that was so used in 1944.

CONSUMPTION BY STATES

The consumption of coke, by States, in 1945 followed in general the distribution pattern established in previous years and coke was used in every State in the Union and the District of Columbia. Although slight increases in consumption were recorded in a few of the minor consuming States, substantial decreases were registered in all of the principal consuming States, especially those dominated by iron blast interests. The largest decrease in terms of tonnage was in Pennsylvania with a drop of 1,439,105 tons when compared with 1944, this State, however, maintained its position as the ranking State in coke usage accounting for 26 percent of the Nation's total. Ohio, with its large concentration of blast furnaces, ranked second and the total tonnage used for all purposes in this State was equivalent to 16 percent of the total used or sold by all producers. A decrease of more than a half million tons in blast-furnace coke consumption in Indiana was not offset by increases in consumption for other purposes and this State yielded third place to New York. Although New York ranked third in total tonnage consumed, it was the leading user of domestic coke and accounted for 20 percent of all domestic coke deliveries. Indiana, Illinois, and Alabama followed New York in the order named and together consumed 24 percent of the total. Significant tonnages were also used in Michigan, Maryland, and West Virginia, the aggregate of which represented 7,102,969 tons, or 11 percent of the total consumption.

COMPARATIVE CONSUMPTION, 1940 AND 1945

An analysis of the comparative tonnages of byproduct and beehive coke consumed by major uses in the various geographical regions for the years 1940 and 1945 reveals that total consumption increased in 7 of the 9 regions. It is to be noted that the increases in virtually all regions were due to the gains in the usage of industrial coke (furnace, foundry, etc.) as the tonnages of coke distributed for domestic use declined in all but the Southwest, Mountain, and Pacific Region. In 1945, the Middle Atlantic Region continued to lead in consumption followed by Illinois-Indiana, Ohio and the Southeast Regions. Ohio fell behind Illinois-Indiana in 1945 for the first time chiefly because of the sharp decrease in blast-furnace coke consumption. The increase in the use of furnace coke in New York, Pennsylvania, and Maryland over 1940 was the principal factor in the 12-percent gain in total consumption in 1945 in the Middle Atlantic Region. Although consumption of domestic coke dropped 384,018 tons in the Illinois-Indiana Region during the same period, substantial increases in the use of furnace, foundry, and other industrial coke resulted in a net gain of 21 percent in total consumption in this Region. Increased usage of coke in blast furnaces and of coke designated as "other industrial" in Ohio advanced total consumption 15 percent over 1940. The 28-percent gain in consumption in the Southeast Region was due to the marked increases in tonnages of coke used in blast furnaces in West Virginia, Kentucky, and Alabama, together with the substantial increases in the consumption of "other industrial" coke in West Virginia and Alabama. In Michigan, the decrease of 399,206 tons of domestic coke when compared with 1940, was not overcome by the gain made by blast-furnace coke and total consumption in this Region dropped 6 percent. A significant increase over 1940 was recorded in the Southwest, Mountain, and Pacific Region mainly because of the expanded requirements of coke by new blast furnaces in California, Texas, and Utah.

SOURCE OF COKE CONSUMED IN EACH STATE

Table 3 shows the extent of the coke market in each State, by major uses, and indicates the origin of the coke. The Bureau of Mines is not at liberty to publish data in the detail that such a table outlines. In States where less than three companies were involved, express permission of the producer or producers governed the extent of detailed presentation and in some cases one or more States were grouped to prevent disclosure of individual figures.

Ohio was the leading consumer of out-of-State coke, receiving 22 percent of its total requirements from 11 States; Pennsylvania supplied 61 percent of the tonnage shipped into this State. Illinois ranked second in total out-of-State receipts, obtaining 1,830,204 tons from 10 other States; of this tonnage, Indiana and Kentucky furnished 88 percent, most of which was used in the manufacture of pig iron in the Chicago district. Approximately 7 percent of the total coke consumption in New York was obtained from 13 States, Pennsylvania again being the principal supplier with 333,467 tons. The only other State that received more than 300,000 tons from other States was West Virginia with receipts from 9 States. All of Maryland's production of large coke was used within the State and this was supplemented by shipments of nearly 300,000 tons from 5 nearby States.

DISTRIBUTION OF COKE PRODUCED IN EACH STATE

As in preceding years, virtually all coke-producing States used from 80 to 90 percent of the coke produced within their boundaries. Pennsylvania, the ranking producing State, also led in interstate shipments with more than 3,000,000 tons (15 percent of the total output) destined for 22 other States and the District of Columbia. Of the total tonnage moving outside Pennsylvania in 1945, 50 percent was shipped to Ohio where most of it was used in iron blast furnaces. This State was also the principal exporting State accounting for 35 percent of the total tonnage shipped to foreign countries. Indiana and Kentucky together ranked second sending more than 2,000,000 tons to 22 States with Illinois receiving about 78 percent of the total shipments from these two States. West Virginia, the only other State that shipped more than a million tons across its borders sent coke to 21 States. In 1945, shipments from Alabama were the most widespread moving to 31 other States, the District of Columbia, and to foreign countries. However, the total tonnage involved was relatively small and represented but 11 percent of the total output of this State.

SCREENINGS OR BREEZE

The consumption of coke breeze, or screenings, in 1945 increased 3 percent over 1944 and was the highest ever reported. Screenings or breeze was used in 39 States, the District of Columbia, and nearly 60,000 tons were exported to 2 foreign countries. The low unit value of breeze does not justify long rail hauls and most breeze is consumed at or near producing plants chiefly for steam raising. The total tonnage shipped from producing plants in 1945 amounted to slightly more than one-fifth of the total quantity used or sold by producers. Of the total tonnage distributed in 1945, byproduct ovens supplied 98 percent, as very few beehive plants have equipment for the recovery of breeze. For this reason, the ranking byproduct-coke producing States are the leading consumers of breeze and Pennsylvania, Ohio, New York, and Indiana used 50 percent of the total consumption in 1945.

EXPORTS OF COKE AND BREEZE

Shipments of byproduct and beehive coke and breeze to foreign countries in 1945, as reported by producers, increased 33 percent over 1944 and were the highest since 1929. As in previous surveys, exports of coke reported by producers were considerably lower than the foreign shipments reported in official customs returns (1,478,746 tons in 1945) which include exports of reclaimed coke, as well as shipments by dealers and exporters, which are not included in this report. As will be noted in the following table, coke designated as "domestic" usually constitutes about 50 percent of the total shipments of large coke and is nearly all destined for Canada. Aside from Canada, which received 84 percent of the total exports in 1945, the foreign market for American coke is very small. In 1945, producers located in 14 States reported foreign shipments with Michigan, Pennsylvania, and New York accounting for 85 percent of the total. The comparative distribution, by major uses and principal destinations, of coke exports for the years 1940 and 1943-45 are shown below.

BYPRODUCT AND BEEHIVE COKE AND BREEZE EXPORTED BY PRODUCERS, 1940 AND 1943-45, BY USES, IN NET TONS

Uses	1940	1943	1944	1945
Furnace	81,627	60,276	17,862	31,094
Foundry	98,337	116,646	104,253	165,894
Other industrial, including water gas	190,317	198,135	180,681	257,066
Domestic	303,796	170,568	386,346	450,401
Breeze	46,498	97,486	35,517	59,663
	720,575	643,111	724,659	964,118

BYPRODUCT AND BEEHIVE COKE AND BREEZE EXPORTED BY PRODUCERS, 1940 AND 1943-45, BY DESTINATION, IN NET TONS

Destination	1940	1943	1944	1945
North America:				
Canada	640,888	610,280	678,008	805,371
Mexico	16,908	4,533	3,825	7,527
West Indies	24,299	8,133	30,842	33,902
Other North America	48	32	....	....
Central America	229	195	149	105
South America	6,173	12,742	8,960	8,277
Europe	14,350	....	986	28,406
Africa	....	....	....	609
Hawii and the Philippines	3,132	....	....	....
Unknown	14,548	7,196	1,889	79,921
	720,575	643,111	724,659	964,118

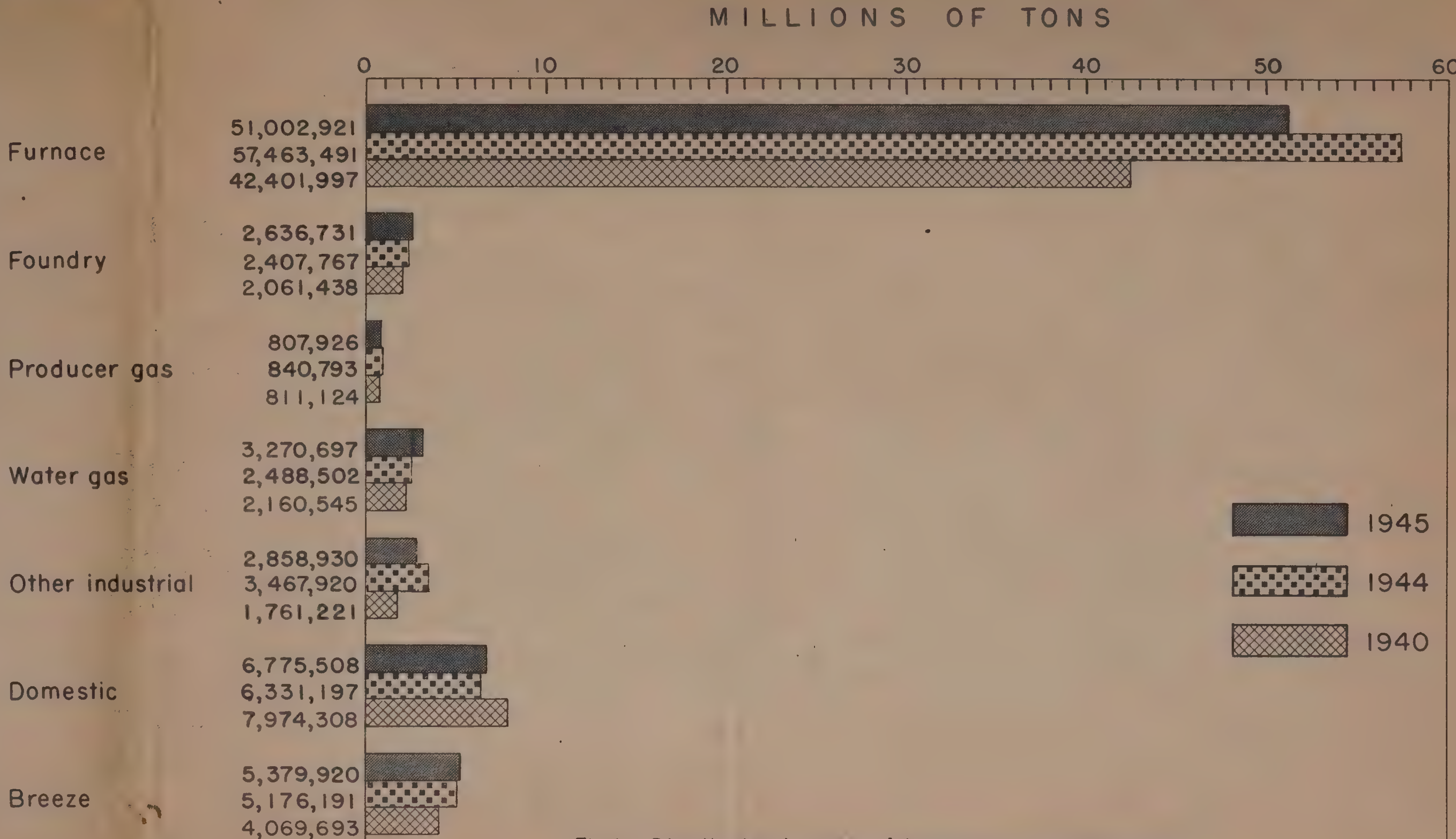

Fig.1 – Distribution by uses of byproduct and beehive coke

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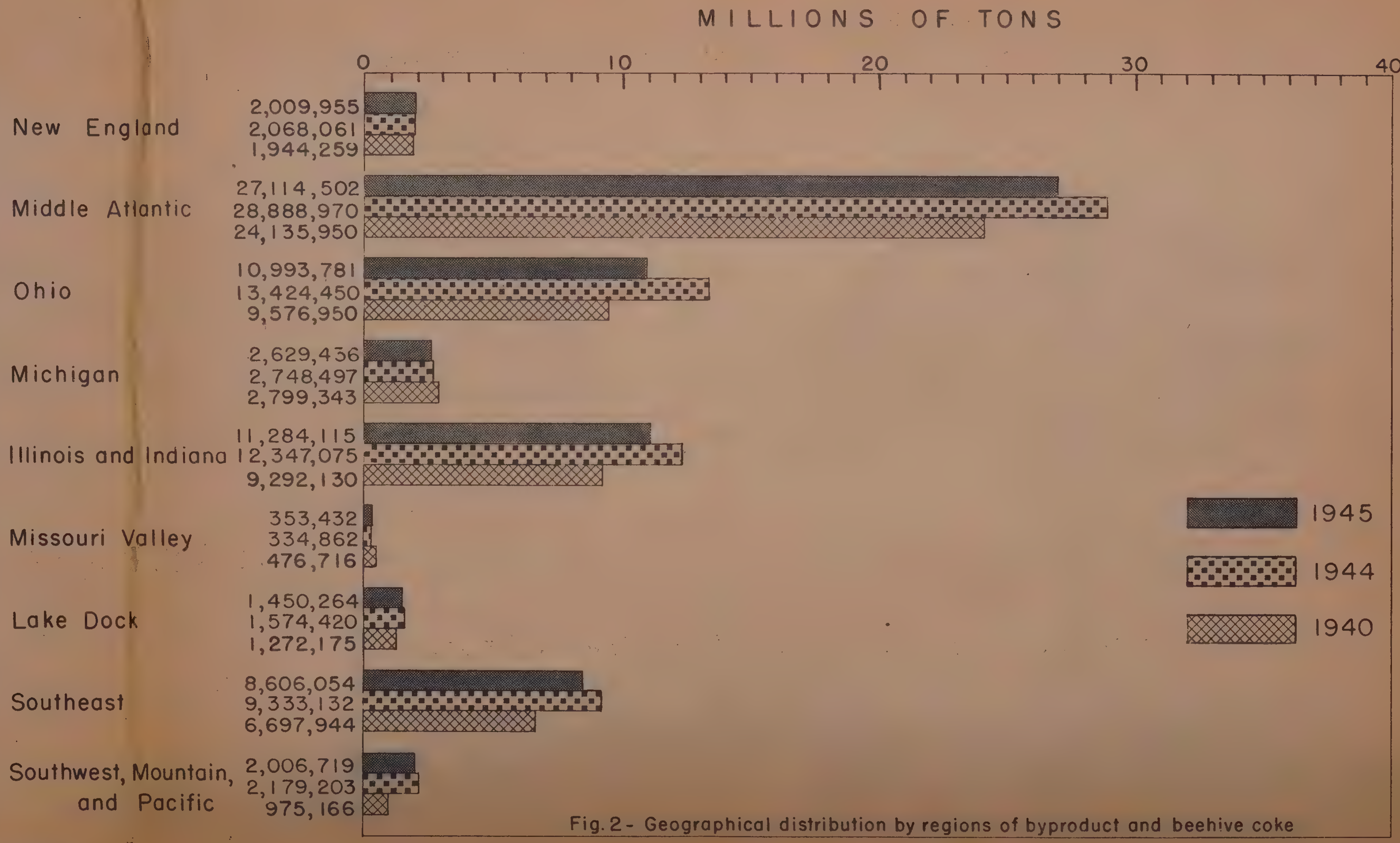

Fig. 2 - Geographical distribution by regions of byproduct and beehive coke

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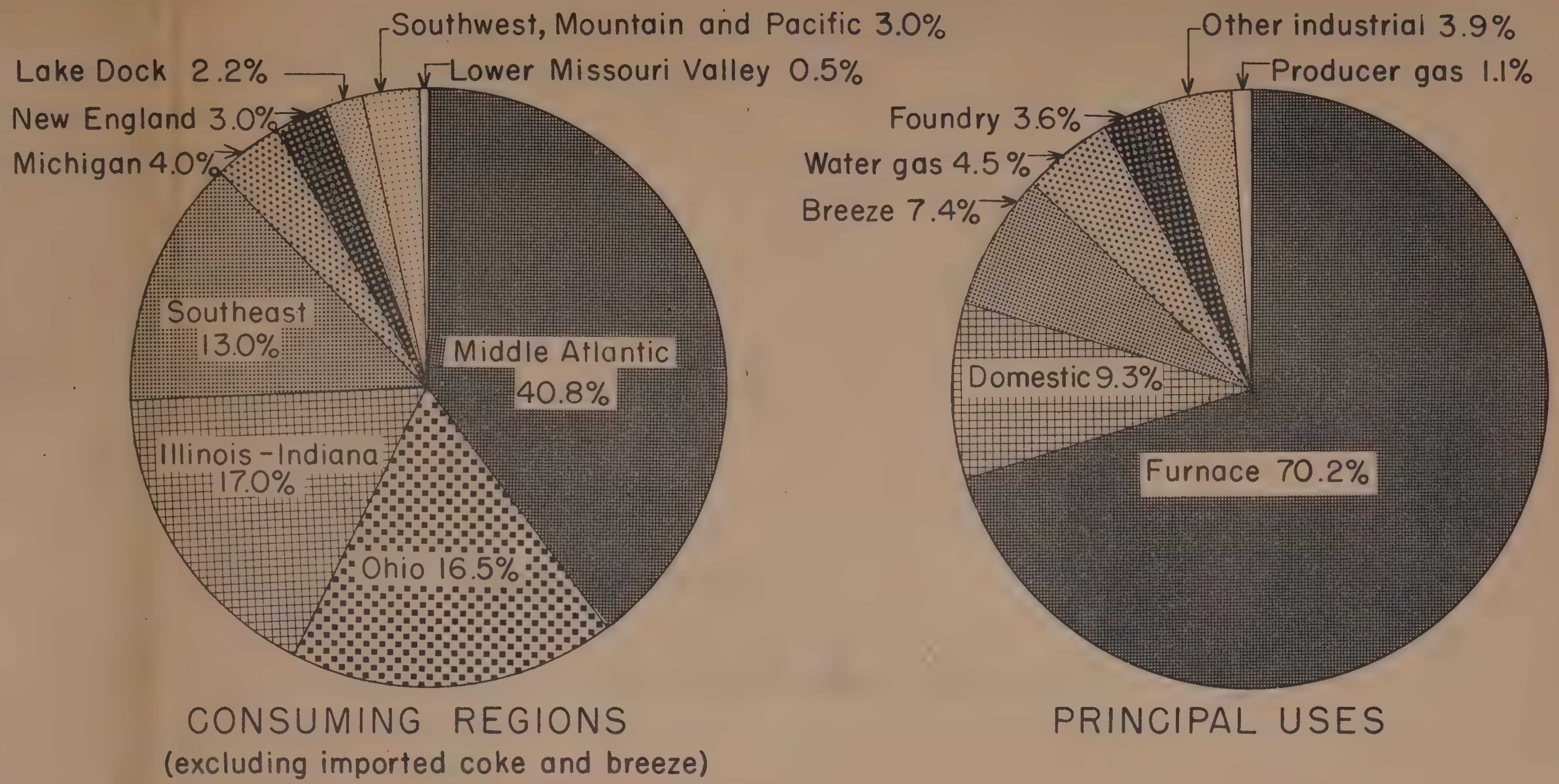

CONSUMING REGIONS
(excluding imported coke and breeze)

PRINCIPAL USES

Fig.3 Distribution of byproduct and beehive coke in 1945

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TABLE 1. - SUMMARY OF BYPRODUCT AND BEEHIVE COKE AND BREEZE CONSUMED IN EACH STATE IN 1945, IN NET TONS
(Based upon reports from all United States producers showing destination of coke used by producer or sold in 1945.
Does not include imported coke which totaled 51,964 tons in 1945)

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Consuming State	Coke							Coke breeze
	Furnace use	Foundry use	Making producer gas	Making water gas	Other industrial use	Domestic use	Total	
Alabama	4,358,091	85,977	....	998	229,382	86,575	4,761,023	189,096
Arizona	....	4,202	....	....	601	....	4,803	....
Arkansas	....	825	....	527	58	35	1,445	132
California	262,094	53,118	....	....	31,593	7,747	354,552	21,306
Colorado	605,458	14,682	....	....	28,649	....	648,789	93,763
Connecticut	....	40,360	85,559	100,190	6,258	196,355	428,722	47,099
Delaware	....	4,230	....	496	1,530	5,096	11,352	1,754
District of Columbia	....	194	....	53,970	18,622	1,932	74,718	396
Florida	....	1,801	....	46,892	2,480	3,738	54,911	1,895
Georgia	....	16,042	....	13,094	13,727	13,239	56,102	391
Idaho	....	419	....	....	4,075	10	4,504	153
Illinois	4,424,668	254,820	31,577	65,506	93,956	432,452	5,302,979	411,756
Indiana	5,406,093	131,635	....	53,754	141,668	247,986	5,981,136	490,614
Iowa	....	49,458	....	2,715	30,055	12,068	94,296	14,362
Kansas	....	11,464	....	....	1,911	....	13,375	10,298
Kentucky	569,341	16,171	....	72,907	14,467	55,469	728,355	48,781
Louisiana	....	5,822	....	....	18,518	3,072	27,412	6
Maine	....	4,217	....	3,258	247	61,325	69,047	....
Maryland	2,261,071	37,407	....	32,445	21,349	2,009	2,354,281	186,188
Massachusetts	....	52,331	122,548	126,330	28,114	870,322	1,199,645	133,628
Michigan	1,267,695	318,095	5,329	5,994	295,835	736,488	2,629,436	218,531
Minnesota	403,325	34,367	7,112	5,088	68,076	282,852	800,820	86,075
Mississippi	....	1,112	....	....	1,007	1,537	3,656	64
Missouri	....	76,733	....	2,025	46,489	100,462	225,709	6,864
Montana	....	2,194	....	....	22,896	....	25,090	26,195
Nebraska	....	3,057	....	11,446	4,436	1,113	20,052	106
Nevada	....	513	....	....	6,119	....	6,632	....
New Hampshire	....	5,048	....	3,088	187	75,823	84,146	....

(Continued on next page)

TABLE 1. - SUMMARY OF BYPRODUCT AND BEEHIVE COKE AND BREEZE CONSUMED IN EACH STATE IN 1945, IN NET TONS (Continued)

Consuming State	Coke							Coke breeze
	Furnace use	Foundry use	Making producer gas	Making water gas	Other industrial use	Domestic use	Total	
New Jersey	....	74,563	77,331	326,226	105,129	552,199	1,135,448	135,854
New Mexico	....	4,447	....	....	322	....	4,769	....
New York	3,242,590	143,725	299,257	874,186	335,614	1,375,058	6,270,430	503,871
North Carolina	....	11,051	....	5,512	5,440	5,354	27,357	504
North Dakota	....	210	....	425	460	1,325	2,420	....
Ohio	9,985,887	310,043	....	159,639	241,511	296,701	10,993,781	776,277
Oklahoma	....	3,949	....	....	157	....	4,106	16,135
Oregon	....	7,939	....	....	7,456	215	15,610	3,613
Pennsylvania	16,080,883	319,276	74,320	190,697	269,396	333,701	17,268,273	1,353,617
Rhode Island	....	8,748	36,274	3,729	1,118	136,660	186,529	26,149
South Carolina	....	4,157	....	2,734	4,910	7,494	19,295	2,995
South Dakota	....	223	....	....	226	2,420	2,869	....
Tennessee	113,841	77,542	....	48,543	68,889	6,238	315,053	94,959
Texas	132,537	27,426	....	2,235	50,958	....	213,156	6,329
Utah	613,573	11,562	....	....	45,392	2,580	673,107	137,232
Vermont	....	6,772	....	2,025	2,903	30,166	41,866	....
Virginia	63,422	36,824	....	328,456	89,120	3,228	521,050	5,725
Washington	....	8,294	....	107	2,284	108	10,793	5,996
West Virginia	1,181,258	30,677	....	688,243	217,058	2,016	2,119,252	158,060
Wisconsin	....	147,110	68,619	36,514	19,973	371,939	644,155	103,488
Wyoming	....	10,005	....	106	1,840	....	11,951	....
	50,971,827	2,470,837	807,926	3,270,100	2,602,461	6,325,107	66,448,258	5,320,257
Exports	31,094	165,894	....	597	256,469	450,401	904,455	59,663
	51,002,921	2,636,731	807,926	3,270,697	2,858,930	6,775,508	67,352,713	5,379,920

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TABLE 2. - COMPARATIVE TONNAGE OF BYPRODUCT AND BEEHIVE COKE CONSUMED IN EACH STATE, BY REGIONS, 1940 AND 1945, IN NET TONS
(Exclusive of imported coke and of screenings or breeze)

Consuming region and State	Furnace use		Foundry use		Other industrial		Domestic use		Total coke	
	1940	1945	1940	1945	1940	1945	1940	1945	1940	1945
NEW ENGLAND:										
Maine	....	....	2,956	4,217	2,181	3,505	49,473	61,325	54,610	69,047
New Hampshire	....	....	1,443	5,048	1,616	3,275	55,709	75,823	58,768	84,146
Vermont	....	....	5,433	6,772	3,291	4,928	32,587	30,166	41,311	41,866
Massachusetts	88,830	....	48,872	52,331	162,598	276,992	933,356	870,322	1,233,656	1,199,645
Connecticut	....	....	34,847	40,360	128,140	192,007	203,534	196,355	366,521	428,722
Rhode Island	....	....	10,199	8,748	24,424	41,121	154,770	136,660	189,393	186,529
	88,830	....	103,750	117,476	322,250	521,828	1,429,429	1,370,651	1,944,259	2,009,955
MIDDLE ATLANTIC:										
New York	2,615,108	3,242,590	141,372	143,725	1,383,937	1,509,057	1,563,584	1,375,058	5,704,001	6,270,430
New Jersey	....	....	86,161	74,563	433,524	508,686	488,890	552,199	1,008,575	1,135,448
Pennsylvania	14,319,836	16,080,883	219,232	319,276	313,431	534,413	537,204	333,701	15,389,703	17,268,273
Delaware	....	....	2,758	4,230	1,962	2,026	2,326	5,096	7,046	11,352
Maryland	1,849,917	2,261,071	23,891	37,407	57,437	53,794	28,050	2,009	1,959,295	2,354,281
Dist. of Columbia	....	....	395	194	64,505	72,592	2,430	1,932	67,330	74,718
	18,784,861	21,584,544	473,809	579,395	2,254,796	2,680,568	2,622,484	2,269,995	24,135,950	27,114,502
OHIO:	8,619,762	9,985,887	304,373	310,043	192,476	401,150	460,339	296,701	9,576,950	10,993,781
MICHIGAN	1,076,370	1,267,695	333,791	318,095	253,488	307,158	1,135,694	736,488	2,799,343	2,629,436
ILLINOIS-INDIANA:										
Illinois	3,332,028	4,424,668	172,455	254,820	174,023	191,039	683,630	432,452	4,362,136	5,302,979
Indiana	4,305,518	5,406,093	106,063	131,635	137,587	195,422	380,826	247,986	4,929,994	5,981,136
	7,637,546	9,830,761	278,518	386,455	311,610	386,461	1,064,456	680,438	9,292,130	11,284,115
MISSOURI VALLEY:										
Missouri	....	....	34,426	76,733	63,769	48,514	269,036	100,462	367,231	225,709
Iowa	....	....	33,721	49,458	31,186	32,770	10,915	12,068	75,822	94,296
Nebraska	....	....	2,320	3,057	20,177	15,882	819	1,113	23,316	20,052
Kansas	....	....	7,510	11,464	2,787	1,911	50	....	10,347	13,375
	....	....	77,977	140,712	117,919	99,077	280,820	113,643	476,716	353,432

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TABLE 2. - COMPARATIVE TONNAGE OF BYPRODUCT AND BEEHIVE COKE CONSUMED IN EACH STATE, BY REGIONS, 1940 AND 1945, IN NET TONS (Continued)

Consuming region and State	Furnace use		Foundry use		Other industrial		Domestic use		Total coke	
	1940	1945	1940	1945	1940	1945	1940	1945	1940	1945
LAKE DOCK:										
Wisconsin	....	....	99,327	147,110	120,925	125,106	432,778	371,939	653,030	644,155
Minnesota	225,569	403,325	15,684	34,367	42,003	80,276	331,682	282,852	614,938	800,820
North Dakota	....	....	....	210	267	885	1,491	1,325	1,758	2,420
South Dakota	....	....	181	223	501	226	1,767	2,420	2,449	2,869
	225,569	403,325	115,192	181,910	163,696	206,493	767,718	658,536	1,272,175	1,450,264
SOUTHEAST:										
Virginia	52,715	63,422	31,258	36,824	374,841	417,576	8,957	3,228	467,771	521,050
West Virginia	787,694	1,181,258	12,657	30,677	474,713	905,301	4,369	2,016	1,279,433	2,119,252
North Carolina ...	....	....	13,410	11,051	6,353	10,952	4,169	5,354	23,932	27,357
South Carolina ...	....	....	3,613	4,157	2,736	7,644	3,160	7,494	9,509	19,295
Georgia	....	....	13,765	16,042	10,957	26,821	15,478	13,239	40,200	56,102
Florida	....	....	1,017	1,301	30,290	49,372	4,961	3,738	36,268	54,911
Kentucky	221,698	569,341	20,341	16,171	12,532	87,374	41,993	55,469	296,564	728,355
Tennessee	54,312	113,841	59,724	77,542	44,455	117,432	18,658	6,238	177,149	315,053
Alabama	4,099,434	4,358,091	123,394	85,977	42,982	230,380	99,102	86,575	4,364,912	4,761,023
Mississippi	....	....	821	1,112	....	1,007	1,385	1,537	2,206	3,656
	5,215,853	6,285,953	280,000	281,354	999,859	1,853,859	202,232	184,888	6,697,944	8,606,054
SOUTHWEST, MOUNTAIN, AND PACIFIC:										
Louisiana	....	....	2,883	5,822	21,656	18,518	7,374	3,072	31,913	27,412
Arkansas	....	....	1,444	825	567	585	38	35	2,049	1,445
Oklahoma	....	....	2,205	3,949	172	157	19	....	2,396	4,106
Texas	....	132,537	15,991	27,426	31,409	53,193	225	....	47,625	213,156
New Mexico	....	....	1,018	4,447	219	322	....	....	1,237	4,769
Arizona	....	....	4,053	4,202	140	601	155	....	4,348	4,803
Colorado	521,698	605,458	11,604	14,682	12,391	28,649	201	....	545,894	648,789
Utah	163,790	613,573	10,337	11,562	55,234	45,392	2,113	2,580	231,474	673,107
Nevada	....	....	28	513	29	6,119	....	....	57	6,632
Wyoming	....	....	....	10,005	2,470	1,946	2	....	2,472	11,951
Montana	....	....	2,060	2,194	22,733	22,896	....	....	24,793	25,090
Idaho	....	....	69	419	3,831	4,075	....	10	3,900	4,504
Washington	....	....	3,089	8,294	1,609	2,391	21	108	4,719	10,793
Oregon	....	....	2,821	7,939	1,788	7,456	....	215	4,609	15,610
California	....	262,094	36,426	53,118	30,266	31,593	988	7,747	67,680	354,552
	685,488	1,613,662	94,028	155,397	184,514	223,893	11,136	13,767	975,166	2,006,719

TABLE 3. - SOURCE AND QUANTITY OF BYPRODUCT AND BEEHIVE COKE AND BREEZE CONSUMED IN EACH STATE IN 1945, IN NET TONS

Consuming State and source	Coke											Total breeze
	Furnace use		Foundry use		Other industrial use		Domestic use		Total coke			
	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Total	
NEW ENGLAND REGION												
MAINE:												
From New England	....	....	4,217	.....	3,258	.....	56,373	.....	64,348	....	64,348	....
N. J. and N. Y. ..	....	....	....	.....	....	.....	350	.....	350	....	350	....
Pennsylvania	....	....	....	.....	....	77	2,058	2,004	2,058	2,081	4,139	....
West Virginia	....	....	....	.....	170	.....	40	.....	210	....	210	....
	....	....	4,217	.....	3,428	77	59,321	2,004	66,966	2,081	69,047	....
NEW HAMPSHIRE:												
From New England	....	....	5,048	.....	2,586	.....	55,202	.....	62,836	....	62,836	....
N. J. and N. Y. ..	....	....	....	.....	689	.....	7,488	.....	8,177	....	8,177	....
Pennsylvania	....	....	....	.....	....	.....	1,290	11,768	1,290	11,768	13,058	....
West Virginia	....	....	....	.....	....	.....	75	.....	75	....	75	....
	....	....	5,048	.....	3,275	.....	64,055	11,768	72,378	11,768	84,146	....
VERMONT:												
From New England	....	....	6,742	.....	181	.....	6,047	.....	12,970	....	12,970	....
N. J. and N. Y. ..	....	....	....	.....	4,422	.....	16,686	.....	21,108	....	21,108	....
Pennsylvania	....	....	30	.....	....	325	1,009	5,788	1,039	6,113	7,152	....
West Virginia	....	....	....	.....	....	.....	636	.....	636	....	636	....
	....	....	6,772	.....	4,603	325	24,378	5,788	35,753	6,113	41,866	....
MASSACHUSETTS:												
From New England	....	....	52,183	.....	266,806	.....	801,135	.....	1,120,124	....	1,120,124	133,628
N. J. and N. Y. ..	....	....	....	.....	9,887	.....	12,598	.....	22,485	....	22,485	....
Pennsylvania	....	....	29	119	29	270	18,469	24,341	18,527	24,730	43,257	....
West Virginia	....	....	....	.....	....	.....	966	12,813	966	12,813	13,779	....
	....	....	52,212	119	276,722	270	833,168	37,154	1,162,102	37,543	1,199,645	133,628
RHODE ISLAND:												
From New England	....	....	8,748	.....	41,121	.....	131,685	.....	181,554	....	181,554	26,149
N. J. and N. Y. ..	....	....	....	.....	....	.....	762	.....	762	....	762	....
Pennsylvania	....	....	....	.....	....	.....	2,710	1,465	2,710	1,465	4,175	....
West Virginia	....	....	....	.....	....	.....	....	38	....	38	38	....
	....	....	8,748	.....	41,121	.....	135,157	1,503	185,026	1,503	186,529	26,149
CONNECTICUT:												
From New England	....	....	34,318	.....	191,584	.....	173,579	.....	399,481	....	399,481	47,056
N. J. and N. Y. ..	....	....	....	.....	....	.....	5,699	.....	5,699	....	5,699	....
Pennsylvania	....	....	5,862	180	....	423	6,700	3,030	12,562	3,633	16,195	43
West Virginia	....	....	....	.....	....	.....	....	7,347	....	7,347	7,347	....
	....	....	40,180	180	191,584	423	185,978	10,377	417,742	10,980	428,722	47,099

(Continued on next page)

TABLE 3. - SOURCE AND QUANTITY OF BYPRODUCT AND BEEHIVE COKE AND BREEZE CONSUMED IN EACH STATE IN 1945. (Continued)

Consuming State and source	Coke											Total breeze
	Furnace use		Foundry use		Other industrial use		Domestic use		Total coke			
	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Total	
MIDDLE ATLANTIC REGION												
NEW YORK:												
From Illinois	....	....	104	.....	....	.....	....	.....	104	....	104	....
Ind. and Ky.	....	....	....	.....	....	.....	....	.....	....	....	....	2,085
Mich. and Wis. ...	....	....	50,164	.....	12,319	.....	....	.....	62,483	....	62,483	1,832
New England	....	....	12,162	.....	178	.....	28	.....	12,368	....	12,368	....
N. J. and N. Y. ..	3,103,697	....	9,174	.....	1,467,409	.....	1,238,370	.....	5,818,650	....	5,818,650	494,838
Ohio	....	....	19,538	.....	647	.....	....	.....	20,185	....	20,185	3,133
Pennsylvania	....	138,893	44,817	6,884	628	7,127	78,778	56,340	124,223	209,244	333,467	1,983
Virginia	....	....	....	67	....	.....	....	.....	....	67	67	....
West Virginia	....	....	....	815	20,452	297	1,177	365	21,629	1,477	23,106	....
	3,103,697	138,893	135,959	7,766	1,501,633	7,424	1,318,353	56,705	6,059,642	210,788	6,270,430	503,871
NEW JERSEY:												
From Maryland	....	....	....	.....	....	.....	....	.....	....	....	....	18,239
Mich. and Wis. ...	....	....	....	.....	....	.....	....	.....	....	....	....	263
New England	....	....	110	.....	....	.....	....	.....	110	....	110	....
N. J. and N. Y. ..	....	....	36,884	.....	473,261	.....	464,372	.....	974,517	....	974,517	108,587
Ohio	....	....	1,998	.....	....	.....	....	.....	1,998	....	1,998	....
Pennsylvania	....	....	28,486	5,913	25,575	4,717	76,888	7,800	130,949	18,430	149,379	8,765
West Virginia	....	....	1,005	167	4,880	253	745	2,394	6,630	2,814	9,444	....
	....	....	68,483	6,080	503,716	4,970	542,005	10,194	1,114,204	21,244	1,135,448	135,854
PENNSYLVANIA:												
From Illinois	....	....	8,577	.....	....	.....	....	.....	8,577	....	8,577	....
Ind. and Ky.	....	22,603	....	.....	....	.....	....	.....	....	22,603	22,603	....
Mich. and Wis. ...	6,967	....	8,528	.....	....	.....	....	.....	15,495	....	15,495	102
N. J. and N. Y. ..	17,491	....	515	.....	35	.....	495	.....	18,536	....	18,536	97
Ohio	11,730	....	12,232	.....	580	.....	33	.....	24,575	....	24,575	264
Pennsylvania	13,403,549	2,484,966	103,332	117,949	348,475	160,866	305,861	19,826	14,161,217	2,783,607	16,944,824	1,333,755
West Virginia	78,989	54,588	64,190	3,953	23,540	917	5,114	2,372	171,833	61,830	233,663	19,399
	13,518,726	2,562,157	197,374	121,902	372,630	161,783	311,503	22,198	14,400,233	2,868,040	17,268,273	1,353,617
DELAWARE:												
From Pennsylvania	....	....	4,166	64	1,209	817	5,054	42	10,429	923	11,352	1,754

(Continued on next page)

TABLE 3. - SOURCE AND QUANTITY OF BYPRODUCT AND BEEHIVE COKE AND BREEZE CONSUMED IN EACH STATE IN 1945 (Continued)

Consuming State and source	Coke											Total breeze
	Furnace use		Foundry use		Other industrial use		Domestic use		Total coke			
	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Total	
MIDDLE ATLANTIC REGION - (Continued)												
MARYLAND:												
From Maryland	2,058,067	....	205	.....	521	.....	....	.....	2,058,793	....	2,058,793	186,134
Mich. and Wis. ...	....	....	4,030	.....	....	.....	....	.....	4,030	....	4,030	....
Pennsylvania	7,177	171,331	18,784	10,900	4,463	38,470	1,406	495	31,830	221,196	253,026	54
Virginia	....	....	....	608	....	.....	....	.....	....	608	608	....
West Virginia	....	24,496	999	1,881	9,188	1,152	....	108	10,187	27,637	37,824	....
	2,065,244	195,827	24,018	13,389	14,172	39,622	1,406	603	2,104,840	249,441	2,354,281	186,188
DISTRICT OF COLUMBIA:												
From Alabama	....	....	....	.....	3,325	.....	....	.....	3,325	....	3,325	....
Pennsylvania	....	....	194	.....	20	69,247	1,932	.....	2,146	69,247	71,393	396
	....	....	194	.....	3,345	69,247	1,932	.....	5,471	69,247	74,718	396
OHIO REGION												
OHIO:												
From Alabama	....	....	18,910	.....	17,937	.....	....	.....	36,847	....	36,847	....
Illinois	....	....	13,612	.....	....	.....	178	.....	13,790	....	13,790	26,228
Ind. and Ky.	....	7,179	25,206	.....	5,240	779	8,520	.....	38,966	7,958	46,924	12,445
Mich. and Wis. ...	80,635	....	92,790	.....	10,776	.....	67	.....	184,268	....	184,268	224
N. J. and N. Y. ..	....	....	....	.....	13,065	.....	37	.....	13,102	....	13,102	....
Ohio	7,830,806	....	125,968	.....	332,214	.....	253,218	.....	8,542,206	....	8,542,206	725,527
Pennsylvania	530,308	880,601	13,597	17,095	9,691	10,462	8,772	23,424	562,368	931,582	1,493,950	11,853
Virginia	....	286	....	841	....	217	....	.....	....	1,344	1,344	....
West Virginia	589,638	66,434	357	1,667	272	497	1,239	1,246	591,506	69,844	661,350	....
	9,031,387	954,500	290,440	19,603	389,195	11,955	272,031	24,670	9,983,053	1,010,728	10,993,781	776,277

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TABLE 3. - SOURCE AND QUANTITY OF BYPRODUCT AND BEEHIVE COKE AND BREEZE CONSUMED IN EACH STATE IN 1945 (Continued)

Consuming State and source	Coke											Total breeze
	Furnace use		Foundry use		Other industrial use		Domestic use		Total coke			
	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Total	
MICHIGAN REGION												
MICHIGAN:												
From Alabama	....	....	29,181	.....	....	.....	2,836	.....	32,017	....	32,017	....
Illinois	....	....	20,927	.....	2,986	.....	7,495	.....	31,408	....	31,408	....
Ind. and Ky.	....	....	56,838	.....	3,242	100	94,860	.....	154,940	100	155,040	2,854
Mich. and Wis.	1,267,583	....	158,925	.....	300,278	.....	552,946	.....	2,279,732	....	2,279,732	211,250
Minnesota	....	....	....	.....	83	.....	35	.....	118	....	118	....
N. J. and N. Y.	....	....	....	.....	....	.....	11,547	.....	11,547	....	11,547	....
Ohio	....	....	49,388	.....	267	.....	15,596	.....	65,251	....	65,251	4,427
Pennsylvania	....	112	....	182	....	202	43,979	531	43,979	1,027	45,006	....
Virginia	....	....	....	654	....	.....	....	.....	....	654	654	....
West Virginia	....	....	....	2,000	....	.....	6,505	158	6,505	2,158	8,663	....
	1,267,583	112	315,259	2,836	306,856	302	735,799	689	2,625,497	3,939	2,629,436	218,531
ILLINOIS-INDIANA REGION												
ILLINOIS:												
From Alabama	....	....	7,997	.....	337	.....	24,400	.....	32,734	....	32,734	....
Illinois	2,846,707	....	141,242	.....	167,933	.....	316,893	.....	3,472,775	....	3,472,775	318,702
Ind. and Ky.	1,481,250	5,496	73,747	.....	8,225	.....	39,079	.....	1,602,301	5,496	1,607,797	83,455
Mich. and Wis.	....	....	25,757	.....	1,150	.....	32,207	.....	59,114	....	59,114	572
Missouri	....	....	6,031	.....	9,435	.....	19,873	.....	35,339	....	35,339	9,027
Ohio	35,028	....	....	.....	3,723	.....	....	.....	38,751	....	38,751	....
Pennsylvania	32,144	22,798	....	.....	....	86	....	.....	32,144	22,884	55,028	....
Virginia	....	1,245	....	.....	....	.....	....	.....	....	1,245	1,245	....
West Virginia	....	....	....	46	150	.....	....	.....	150	46	196	....
	4,395,129	29,539	254,774	46	190,953	86	432,452	.....	5,273,308	29,671	5,302,979	411,756
INDIANA:												
From Alabama	....	....	3,008	.....	786	.....	5,243	.....	9,037	....	9,037	....
Illinois	15,859	....	28,551	.....	5,818	.....	4,476	.....	54,704	....	54,704	22,824
Ind. and Ky.	5,387,857	....	77,136	.....	167,983	.....	198,894	.....	5,831,870	....	5,831,870	467,297
Mich. and Wis.	....	....	12,053	.....	11,672	.....	291	.....	24,016	....	24,016	....
Missouri	....	....	....	.....	....	.....	34	.....	34	....	34	....
Ohio	205	....	10,309	.....	7,194	.....	38,372	.....	56,080	....	56,080	493
Pennsylvania	1,806	25	....	.....	124	1,845	484	117	2,414	1,987	4,401	....
Tennessee	32	....	224	.....	....	.....	....	.....	256	....	256	....
Virginia	....	309	....	213	....	.....	....	.....	....	522	522	....
West Virginia	....	....	....	141	....	.....	75	.....	75	141	216	....
	5,405,759	334	131,281	354	193,577	1,845	247,869	117	5,978,486	2,650	5,981,136	490,614

(Continued on next page)

TABLE 3. - SOURCE AND QUANTITY OF BYPRODUCT AND BEEHIVE COKE AND BREEZE CONSUMED IN EACH STATE IN 1945 (Continued)

Consuming State and source	Coke											Total breeze
	Furnace use		Foundry use		Other industrial use		Domestic use		Total coke			
	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Total	
MISSOURI VALLEY REGION												
MISSOURI:												
From Alabama	....	....	1,858	.....	....	.....	506	.....	2,364	....	2,364	....
Illinois	....	....	9,091	.....	....	.....	....	.....	9,091	....	9,091	55
Ind. and Ky.	....	....	6,745	.....	77	.....	581	.....	7,403	....	7,403	....
Mich. and Wis.	....	....	5,022	.....	....	.....	....	.....	5,022	....	5,022	....
Missouri	....	....	53,476	.....	48,403	.....	99,375	.....	201,254	....	201,254	6,809
Ohio	....	....	147	.....	....	.....	....	.....	147	....	147	....
Pennsylvania	....	....	....	362	....	34	....	.....	....	396	396	....
Tennessee	....	....	32	.....	....	.....	....	.....	32	....	32	....
	....	....	76,371	362	48,480	34	100,462	.....	225,313	396	225,709	6,864
IOWA:												
From Alabama	....	....	....	.....	....	.....	1,510	.....	1,510	....	1,510	....
Colorado	....	....	....	34	....	.....	....	.....	....	34	34	....
Illinois	....	....	14,170	.....	2,076	.....	970	.....	17,216	....	17,216	485
Ind. and Ky.	....	....	26,423	.....	3,271	.....	6,508	.....	36,202	....	36,202	13,874
Mich. and Wis.	....	....	8,688	.....	839	.....	1,811	.....	11,338	....	11,338	3
Minnesota	....	....	....	.....	827	.....	274	.....	1,101	....	1,101	....
Missouri	....	....	112	.....	4,050	.....	995	.....	5,157	....	5,157	....
Ohio	....	....	31	.....	21,707	.....	....	.....	21,738	....	21,738	....
	....	....	49,424	34	32,770	.....	12,068	.....	94,262	34	94,296	14,362
NEBRASKA:												
From Alabama	....	....	....	.....	325	.....	708	.....	1,033	....	1,033	....
Colorado	....	....	....	43	3,207	42	....	.....	3,207	85	3,292	....
Illinois	....	....	808	.....	82	.....	....	.....	890	....	890	....
Ind. and Ky.	....	....	646	.....	....	.....	1	.....	647	....	647	....
Mich. and Wis.	....	....	1,560	.....	34	.....	379	.....	1,973	....	1,973	....
Missouri	....	....	....	.....	12,142	.....	25	.....	12,167	....	12,167	....
Pennsylvania	....	....	....	.....	....	50	....	.....	....	50	50	106
	....	....	3,014	43	15,790	92	1,113	.....	19,917	135	20,052	106
KANSAS:												
From Alabama	....	....	871	.....	74	.....	....	.....	945	....	945	....
Colorado	....	....	274	30	1,294	.....	....	.....	1,568	30	1,598	....
Illinois	....	....	1,679	.....	....	.....	....	.....	1,679	....	1,679	2,239
Ind. and Ky.	....	....	294	.....	....	.....	....	.....	294	....	294	7,643
Mich. and Wis.	....	....	2,134	.....	....	.....	....	.....	2,134	....	2,134	....
Missouri	....	....	5,894	.....	493	.....	....	.....	6,387	....	6,387	416
Pennsylvania	....	....	....	.....	....	50	....	.....	....	50	50	....
Tennessee	....	....	288	.....	....	.....	....	.....	288	....	288	....
	....	....	11,434	30	1,861	50	....	.....	13,295	80	13,375	10,298

(Continued on next page)

TABLE 3. - SOURCE AND QUANTITY OF BYPRODUCT AND BEEHIVE COKE AND BREEZE CONSUMED IN EACH STATE IN 1945 (Continued)

Consuming State and source	Coke											Total breeze
	Furnace use		Foundry use		Other industrial use		Domestic use		Total coke			
	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Total	
LAKE DOCK REGION												
WISCONSIN:												
From Alabama	....	....	....	.....	....	.....	3,415	.....	3,415	....	3,415	....
Illinois	....	....	41,688	.....	2,328	.....	26,361	.....	70,377	....	70,377	5,325
Ind. and Ky.	....	....	40,544	.....	12,230	.....	4,221	.....	56,995	....	56,995	42,785
Mich. and Wis.	....	....	64,692	.....	109,676	.....	331,847	.....	506,215	....	506,215	55,378
Minnesota	....	....	....	.....	872	.....	4,735	.....	5,607	....	5,607	....
Missouri	....	....	....	.....	....	.....	1,360	.....	1,360	....	1,360	....
Virginia	....	....	....	186	....	.....	....	.....	....	186	186	....
	....	....	146,924	186	125,106	.....	371,939	.....	643,969	186	644,155	103,488
MINNESOTA:												
From Illinois	....	....	13,051	.....	....	.....	....	.....	13,051	....	13,051	43
Ind. and Ky.	....	....	5,977	.....	100	.....	38	.....	6,115	....	6,115	....
Mich. and Wis.	....	....	5,289	.....	....	.....	4,402	.....	9,691	....	9,691	....
Minnesota	403,325	....	10,050	.....	80,176	.....	278,412	.....	771,963	....	771,963	86,032
	403,325	....	34,367	.....	80,276	.....	282,852	.....	800,820	....	800,820	86,075
NORTH DAKOTA:												
From Minnesota	....	....	....	.....	885	.....	1,325	.....	2,210	....	2,210	....
Missouri	....	....	210	.....	....	.....	....	.....	210	....	210	....
	....	....	210	.....	885	.....	1,325	.....	2,420	....	2,420	....
SOUTH DAKOTA:												
From Illinois	....	....	32	.....	....	.....	....	.....	32	....	32	....
Mich. and Wis.	....	....	191	.....	176	.....	38	.....	405	....	405	....
Minnesota	....	....	....	.....	50	.....	2,382	.....	2,432	....	2,432	....
	....	....	223	.....	226	.....	2,420	.....	2,869	....	2,869	....
SOUTHEAST REGION												
WEST VIRGINIA:												
From Alabama	....	....	2,138	.....	52,652	.....	....	.....	54,790	....	54,790	....
Ind. and Ky.	....	....	....	.....	19,443	14,087	30	.....	19,473	14,087	33,560	....
Mich. and Wis.	....	....	413	.....	10,950	.....	....	.....	11,363	....	11,363	....
Ohio	61,447	....	5,533	.....	31,612	.....	279	.....	98,871	....	98,871	6,049
Pennsylvania	....	142,676	....	7,477	4,213	4,014	227	.....	4,440	154,167	158,607	11,563
Tennessee	....	....	480	.....	....	.....	....	.....	480	....	480	....
Virginia	....	....	....	358	....	23,360	....	.....	....	23,718	23,718	....
West Virginia	977,135	....	1,360	12,918	669,697	75,273	1,468	12	1,649,660	88,203	1,737,863	140,448
	1,038,582	142,676	9,924	20,753	788,567	116,734	2,004	12	1,839,077	280,175	2,119,252	158,060

(Continued on next page)

TABLE 3. - SOURCE AND QUANTITY OF BYPRODUCT AND BEEHIVE COKE AND BREEZE CONSUMED IN EACH STATE IN 1945 (Continued)

Consuming State and source	Coke											Total breeze
	Furnace use		Foundry use		Other industrial use		Domestic use		Total coke			
	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Total	
SOUTHEAST REGION - (Continued)												
VIRGINIA:												
From Alabama	....	....	1,776	.....	153	.....	....	.....	1,929	....	1,929	3,561
Ind. and Ky.	994	6,688	....	.....	5,341	17,472	1,641	.....	7,976	24,160	32,136	....
Ohio	....	....	5,741	.....	311,045	.....	180	.....	316,966	....	316,966	....
Pennsylvania	2,799	4,471	3,409	6,267	4,238	69	593	.....	11,039	10,807	21,846	....
Tennessee	576	....	480	.....	....	.....	....	.....	1,056	....	1,056	2,112
Virginia	....	47,894	....	10,590	....	78,769	....	742	....	137,995	137,995	52
West Virginia	....	....	....	8,561	167	322	....	72	167	8,955	9,122	....
	4,369	59,053	11,406	25,418	320,944	96,632	2,414	814	339,133	181,917	521,050	5,725
NORTH CAROLINA:												
From Alabama	....	....	5,220	.....	8,668	.....	4,534	.....	18,422	....	18,422	....
Pennsylvania	....	....	....	.....	....	.....	....	.....	....	....	....	504
Tennessee	....	....	2,464	.....	....	.....	....	.....	2,464	....	2,464	....
Virginia	....	....	....	2,759	....	2,284	....	820	....	5,863	5,863	....
West Virginia	....	....	....	608	....	.....	....	.....	....	608	608	....
	....	....	7,684	3,367	8,668	2,284	4,534	820	20,886	6,471	27,357	504
SOUTH CAROLINA:												
From Alabama	....	....	3,399	.....	6,286	.....	5,898	.....	15,583	....	15,583	....
Ohio	....	....	....	.....	....	.....	....	.....	....	....	....	2,995
Tennessee	....	....	352	.....	....	.....	....	.....	352	....	352	....
Virginia	....	....	....	406	....	1,358	....	1,596	....	3,360	3,360	....
	....	....	3,751	406	6,286	1,358	5,898	1,596	15,935	3,360	19,295	2,995
GEORGIA:												
From Alabama	....	....	13,993	.....	26,756	.....	13,136	.....	53,885	....	53,885	39
Tennessee	....	....	1,664	.....	....	.....	....	.....	1,664	....	1,664	352
Virginia	....	....	....	385	....	65	....	103	....	553	553	....
	....	....	15,657	385	26,756	65	13,136	103	55,549	553	56,102	391
FLORIDA:												
From Alabama	....	....	1,678	.....	49,278	.....	3,738	.....	54,694	....	54,694	1,895
Tennessee	....	....	32	.....	....	.....	....	.....	32	....	32	....
Virginia	....	....	....	.....	....	94	....	.....	....	94	94	....
West Virginia	....	....	....	91	....	.....	....	.....	....	91	91	....
	....	....	1,710	91	49,278	94	3,738	.....	54,726	185	54,911	1,895

(Continued on next page)

TABLE 3. - SOURCE AND QUANTITY OF BYPRODUCT AND BEEHIVE COKE AND BREEZE CONSUMED IN EACH STATE IN 1945 (Continued)

Consuming State and source	Coke											Total breeze
	Furnace use		Foundry use		Other industrial use		Domestic use		Total coke			
	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Total	
SOUTHEAST REGION - (Continued)												
KENTUCKY:												
From Alabama	....	....	4,081	.....	10,989	.....	956	.....	16,026	....	16,026	....
Ind. and Ky.	540,533	....	94	.....	5,674	.....	10,817	.....	557,118	....	557,118	46,866
Mich. and Wis.	....	....	1,761	.....	....	.....	....	.....	1,761	....	1,761	....
Missouri	....	....	....	.....	62	.....	....	.....	62	....	62	....
Ohio	28,744	....	6,461	.....	69,496	.....	43,669	.....	148,370	....	148,370	1,555
Pennsylvania	....	....	....	.....	....	138	....	.....	....	138	138	360
Tennessee	64	....	192	.....	....	.....	....	.....	256	....	256	....
Virginia	....	....	....	2,884	....	877	....	27	....	3,788	3,788	....
West Virginia	....	....	....	698	....	138	....	.....	....	836	836	....
	569,341	....	12,589	3,582	86,221	1,153	55,442	27	723,593	4,762	728,355	48,781
TENNESSEE:												
From Alabama	....	....	41,573	.....	32,159	.....	4,864	.....	78,596	....	78,596	84,739
Ind. and Ky.	....	....	....	.....	....	.....	34	.....	34	....	34	94
Tennessee	113,841	....	30,738	.....	81,264	.....	1,007	.....	226,850	....	226,850	10,126
Virginia	....	....	....	5,231	....	4,009	....	333	....	9,573	9,573	....
	113,841	....	72,311	5,231	113,423	4,009	5,905	333	305,480	9,573	315,053	94,959
ALABAMA:												
From Alabama	4,356,043	....	83,396	.....	218,729	.....	86,575	.....	4,744,743	....	4,744,743	175,584
Ind. and Ky.	....	....	....	.....	....	.....	....	.....	....	....	....	5,084
Ohio	....	....	....	.....	11,651	.....	....	.....	11,651	....	11,651	7,308
Tennessee	2,048	....	2,048	.....	....	.....	....	.....	4,096	....	4,096	1,120
Virginia	....	....	....	508	....	.....	....	.....	....	508	508	....
West Virginia	....	....	....	25	....	.....	....	.....	....	25	25	....
	4,358,091	....	85,444	533	230,380	.....	86,575	.....	4,760,490	533	4,761,023	189,096
MISSISSIPPI:												
From Alabama	....	....	888	.....	1,007	.....	1,537	.....	3,432	....	3,432	....
Tennessee	....	....	224	.....	....	.....	....	.....	224	....	224	64
	....	....	1,112	.....	1,007	.....	1,537	.....	3,656	....	3,656	64

(Continued on next page)

TABLE 3. - SOURCE AND QUANTITY OF BYPRODUCT AND BEEHIVE COKE AND BREEZE CONSUMED IN EACH STATE IN 1945 (Continued)

Consuming State and source	Coke											Total breeze
	Furnace use		Foundry use		Other industrial use		Domestic use		Total coke			
	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Total	
SOUTHWEST, MOUNTAIN, AND PACIFIC REGION												
LOUISIANA:												
From Alabama	....	....	5,465	.....	18,518	.....	3,072	.....	27,055	....	27,055	....
Missouri	....	....	....	.....	....	.....	....	.....	....	....	....	6
Tennessee	....	....	192	.....	....	.....	....	.....	192	....	192	....
Virginia	....	....	....	141	....	.....	....	.....	....	141	141	....
West Virginia	....	....	....	24	....	.....	....	.....	....	24	24	....
	....	....	5,657	165	18,518	.....	3,072	.....	27,247	165	27,412	6
ARKANSAS:												
From Alabama	....	....	601	.....	527	.....	35	.....	1,163	....	1,163	....
Missouri	....	....	....	.....	58	.....	....	.....	58	....	58	132
Tennessee	....	....	224	.....	....	.....	....	.....	224	....	224	....
	....	....	825	.....	585	.....	35	.....	1,445	....	1,445	132
OKLAHOMA:												
From Alabama	....	....	634	.....	157	.....	....	.....	791	....	791	....
Illinois	....	....	35	.....	....	.....	....	.....	35	....	35	41
Ind. and Ky.	....	....	408	.....	....	.....	....	.....	408	....	408	15,980
Mich. and Wis.	....	....	1,138	.....	....	.....	....	.....	1,138	....	1,138	....
Missouri	....	....	1,081	.....	....	.....	....	.....	1,081	....	1,081	114
Tennessee	....	....	576	.....	....	.....	....	.....	576	....	576	....
Virginia	....	....	....	77	....	.....	....	.....	....	77	77	....
	....	....	3,872	77	157	.....	....	.....	4,029	77	4,106	16,135
TEXAS:												
From Alabama	....	....	25,470	.....	25,511	.....	....	.....	50,981	....	50,981	....
Colorado	....	....	....	31	....	18,974	....	.....	....	19,005	19,005	1,038
Illinois	....	....	31	.....	....	.....	....	.....	31	....	31	....
Ind. and Ky.	....	....	41	.....	....	.....	....	.....	41	....	41	49
Mich. and Wis.	....	....	683	.....	....	.....	....	.....	683	....	683	....
Missouri	....	....	690	.....	....	.....	....	.....	690	....	690	19
Tennessee	....	....	480	.....	....	.....	....	.....	480	....	480	32
Texas	132,537	....	....	.....	8,708	.....	....	.....	141,245	....	141,245	5,191
	132,537	....	27,395	31	34,219	18,974	....	.....	194,151	19,005	213,156	6,329
NEW MEXICO:												
From Alabama	....	....	3,851	.....	....	.....	....	.....	3,851	....	3,851	....
Colorado	....	....	180	.....	322	.....	....	.....	502	....	502	....
Tennessee	....	....	416	.....	....	.....	....	.....	416	....	416	....
	....	....	4,447	.....	322	.....	....	.....	4,769	....	4,769	....
ARIZONA:												
From Alabama	....	....	4,202	.....	....	.....	....	.....	4,202	....	4,202	....
Colorado	....	....	....	.....	601	.....	....	.....	601	....	601	....
	....	....	4,202	.....	601	.....	....	.....	4,803	....	4,803	....

(Continued on next page)

TABLE 3. - SOURCE AND QUANTITY OF BYPRODUCT AND BEEHIVE COKE AND BREEZE CONSUMED IN EACH STATE IN 1945 (Continued)

Consuming State and source	Coke											Total breeze
	Furnace use		Foundry use		Other industrial use		Domestic use		Total coke			
	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Total	
SOUTHWEST, MOUNTAIN, AND PACIFIC REGION - (Continued)												
COLORADO:												
From Alabama	....	....	327	.....	....	.....	....	.....	327	....	327	....
Colorado	605,458	....	4,970	57	15,222	13,338	....	.....	625,650	13,395	639,045	93,763
Illinois	....	....	4,740	.....	....	.....	....	.....	4,740	....	4,740	....
Mich. and Wis.	....	....	1,785	.....	....	.....	....	.....	1,785	....	1,785	....
Missouri	....	....	2,803	.....	89	.....	....	.....	2,892	....	2,892	....
	605,458	....	14,625	57	15,311	13,338	....	.....	635,394	13,395	648,789	93,763
NEVADA:												
From Missouri	....	....	513	.....	....	.....	....	.....	513	....	513	....
Utah	....	....	....	.....	6,119	.....	....	.....	6,119	....	6,119	....
	....	....	513	.....	6,119	.....	....	.....	6,632	....	6.632	....
UTAH:												
From Alabama	....	....	363	.....	....	.....	....	.....	363	....	363	....
Colorado	....	....	....	.....	520	77	....	.....	520	77	597	....
Illinois	....	....	3,411	.....	....	.....	....	.....	3,411	....	3,411	....
Mich. and Wis.	....	....	3,459	.....	1,722	.....	....	.....	5,181	....	5,181	....
Missouri	....	....	4,062	.....	....	.....	....	.....	4,062	....	4,062	....
Tennessee	....	....	32	.....	....	.....	....	.....	32	....	32	....
Utah	612,190	1,383	....	235	42,487	586	2,580	.....	657,257	2,204	659,461	137,232
	612,190	1,383	11,327	235	44,729	663	2,580	.....	670,826	2,281	673,107	137,232
WYOMING:												
From Alabama	....	....	10,005	.....	1,945	.....	....	.....	11,950	....	11,950	....
Colorado	....	....	....	.....	1	.....	....	.....	1	....	1	....
	....	....	10,005	.....	1,946	.....	....	.....	11,951	....	11,951	....
MONTANA:												
From Colorado	....	....	....	.....	697	21,317	....	.....	697	21,317	22,014	....
Illinois	....	....	34	.....	....	.....	....	.....	34	....	34	....
Ind. and Ky.	....	....	1,963	.....	....	.....	....	.....	1,963	....	1,963	....
Mich. and Wis.	....	....	66	.....	510	.....	....	.....	576	....	576	....
Minnesota	....	....	131	.....	184	.....	....	.....	315	....	315	....
Utah	....	....	....	.....	28	160	....	.....	28	160	188	26,195
	....	....	2,194	.....	1,419	21,477	....	.....	3,613	21,477	25,090	26,195

(Continued on next page)

TABLE 3. - SOURCE AND QUANTITY OF BYPRODUCT AND BEEHIVE COKE AND BREEZE CONSUMED IN EACH STATE IN 1945 (Continued)

Consuming State and source	Coke											Total breeze
	Furnace use		Foundry use		Other industrial use		Domestic use		Total coke			
	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Byproduct	Beehive	Total	
SOUTHWEST, MOUNTAIN, AND PACIFIC REGION - (Continued)												
IDAHO:												
From Alabama	....	....	315	.....	....	.....	....	.....	315	....	315	....
Colorado	....	....	....	.....	2,500	.....	....	.....	2,500	....	2,500	....
Ind. and Ky.	....	......	104	.....	....	.....	....	.....	104	....	104	....
Mich. and Wis. ...	....	....	....	.....	821	.....	....	.....	821	....	821	....
Utah	....	....	....	.....	315	439	10	.....	325	439	764	153
	....	....	419	.....	3,636	439	10	.....	4,065	439	4,504	153
OREGON:												
From Alabama	....	....	2,390	.....	33	.....	....	.....	2,423	....	2,423	....
Colorado	....	....	....	.....	1,530	.....	....	.....	1,530	....	1,530	....
Illinois	....	....	2,424	.....	....	.....	....	.....	2,424	....	2,424	....
Ind. and Ky.	....	....	1,860	.....	....	.....	215	.....	2,075	....	2,075	....
Missouri	....	....	1,265	.....	....	.....	....	.....	1,265	....	1,265	....
Utah	....	....	....	.....	5,393	.....	....	.....	5,893	....	5,893	3,613
	....	....	7,939	.....	7,456	.....	215	.....	15,610	....	15,610	3,613
WASHINGTON:												
From Alabama	....	....	126	.....	....	.....	....	.....	126	....	126	....
Illinois	....	....	1,644	.....	....	.....	....	.....	1,644	....	1,644	....
Ind. and Ky.	....	....	1,286	.....	....	.....	....	.....	1,286	....	1,286	....
Mich. and Wis. ...	....	....	1,468	.....	....	.....	....	.....	1,468	....	1,468	....
Minnesota	....	....	429	.....	37	.....	108	.....	574	....	574	....
Missouri	....	....	1,944	.....	36	.....	....	.....	1,980	....	1,980	....
Pennsylvania	....	....	....	1,397	......	.....	....	.....	....	1,397	1,397	....
Utah	....	....	....	.....	2,211	107	....	.....	2,211	107	2,318	5,996
	....	....	6,897	1,397	2,284	107	108	.....	9,289	1,504	10,793	5,996
CALIFORNIA:												
From Alabama	....	....	11,168	.....	7,006	.....	....	.....	18,174	....	18,174	....
California	260,996	....	2,002	.....	1,235	.....	7,747	.....	271,980	....	271,980	21,128
Colorado	....	....	....	98	135	18,882	....	.....	135	18,980	19,115	....
Illinois	....	....	7,899	.....	136	.....	....	.....	8,035	....	8,035	....
Ind. and Ky.	....	....	13,360	.....	....	.....	....	.....	13,360	....	13,360	....
Mich. and Wis. ...	....	....	5,837	.....	531	.....	....	.....	6,368	....	6,368	....
Minnesota	....	....	....	.....	362	.....	....	.....	362	....	362	....
Missouri	....	....	11,419	.....	1,294	.....	....	.....	12,713	....	12,713	....
Tennessee	....	....	576	.....	....	.....	....	.....	576	....	576	....
Utah	....	1,098	....	.....	1,917	95	....	.....	1,917	1,193	3,110	178
West Virginia	....	....	....	759	....	.....	....	.....	....	759	759	....
	260,996	1,098	52,261	857	12,616	18,977	7,747	.....	333,620	20,932	354,552	21,306

TABLE 4. - DISTRIBUTION OF COKE SHIPPED OR USED BY PRODUCER IN 1945, IN NET TONS

PRODUCED IN ALABAMA

1712

Destination	Coke					Total breeze
	Furnace use	Foundry use	Other industrial use	Domestic use	Total coke	
Alabama	4,356,043	83,396	218,729	86,575	4,744,743	175,584
Arizona	....	4,202	....	....	4,202	....
Arkansas	....	601	527	35	1,163	....
California	....	11,168	7,006	....	18,174	....
Colorado	....	327	....	....	327	....
District of Columbia	....	....	3,325	....	3,325	....
Florida	....	1,678	49,278	3,738	54,694	1,895
Georgia	....	13,993	26,756	13,136	53,885	39
Idaho	....	315	....	....	315	....
Illinois	....	7,997	337	24,400	32,734	....
Indiana	....	3,008	786	5,243	9,037	....
Iowa	....	....	....	1,510	1,510	....
Kansas	....	871	74	....	945	....
Kentucky	....	4,081	10,989	956	16,026	....
Louisiana	....	5,465	18,518	3,072	27,055	....
Michigan	....	29,181	....	2,836	32,017	....
Mississippi	....	888	1,007	1,537	3,432	....
Missouri	....	1,858	....	506	2,364	....
Nebraska	....	....	325	708	1,033	....
New Mexico	....	3,851	....	....	3,851	....
North Carolina	....	5,220	8,668	4,534	18,422	....
Ohio	....	18,910	17,937	....	36,847	....
Oklahoma	....	634	157	....	791	....
Oregon	....	2,390	33	....	2,423	....
South Carolina	....	3,399	6,286	5,898	15,583	....
Tennessee	....	41,573	32,159	4,864	78,596	84,739
Texas	....	25,470	25,511	....	50,981	....
Utah	....	363	....	....	363	....
Virginia	....	1,776	153	....	1,929	3,561
Washington	....	126	....	....	126	....
West Virginia	....	2,138	52,652	....	54,790	....
Wisconsin	....	....	....	3,415	3,415	....
Wyoming	....	10,005	1,945	....	11,950	....
Export	....	42,929	26,123	....	69,052	....
	4,356,043	327,813	509,281	162,963	5,356,100	265,818

PRODUCED IN CALIFORNIA

Destination	Furnace use	Foundry use	Other industrial use	Domestic use	Total coke	Total breeze
California	260,996	2,002	1,235	7,747	271,980	21,128
Export	....	....	....	....	....	5,025
	260,996	2,002	1,235	7,747	271,980	26,153

PRODUCED IN COLORADO

Destination	Furnace use	Foundry use	Other industrial use	Domestic use	Total coke	Total breeze
Arizona	....	....	601	....	601	....
California	....	98	19,017	....	19,115	....
Colorado	605,458	5,027	28,560	....	639,045	93,763
Idaho	....	....	2,500	....	2,500	....
Iowa	....	34	....	....	34	....
Kansas	....	304	1,294	....	1,598	....
Montana	....	....	22,014	....	22,014	....
Nebraska	....	43	3,249	....	3,292	....
New Mexico	....	180	322	....	502	....
Oregon	....	....	1,530	....	1,530	....
Texas	....	31	18,974	....	19,005	1,038
Utah	....	....	597	....	597	....
Wyoming	....	....	1	....	1	....
Export	....	....	103	....	103	....
	605,458	5,717	98,762	....	709,937	94,801

(Continued on next page)

TABLE 4. - DISTRIBUTION OF COKE SHIPPED OR USED BY PRODUCER IN 1945 (Continued)

PRODUCED IN CONNECTICUT, MASSACHUSETTS, AND RHODE ISLAND

1712

Destination	Coke					Total breeze
	Furnace use	Foundry use	Other industrial use	Domestic use	Total coke	
Connecticut	....	34,318	191,584	173,579	399,481	47,056
Maine	....	4,217	3,258	56,873	64,348	....
Massachusetts	....	52,183	266,306	801,135	1,120,124	133,628
New Hampshire	....	5,048	2,586	55,202	62,836	....
New Jersey	....	110	....	....	110	....
New York	....	12,162	178	28	12,368	....
Rhode Island	....	8,748	41,121	131,685	181,554	26,149
Vermont	....	6,742	181	6,047	12,970	....
Export	....	91	....	....	91	....
	....	123,619	505,714	1,224,549	1,853,882	206,833

PRODUCED IN ILLINOIS

California	....	7,899	136	....	8,035	....
Colorado	....	4,740	....	....	4,740	....
Illinois	2,846,707	141,242	167,933	316,893	3,472,775	318,702
Indiana	15,859	28,551	5,818	4,476	54,704	22,824
Iowa	....	14,170	2,076	970	17,216	485
Kansas	....	1,679	....	....	1,679	2,239
Michigan	....	20,927	2,986	7,495	31,408	....
Minnesota	....	13,051	....	....	13,051	43
Missouri	....	9,091	....	....	9,091	55
Montana	....	34	....	....	34	....
Nebraska	....	808	82	....	890	....
New York	....	104	....	....	104	....
Ohio	....	13,612	....	178	13,790	26,228
Oklahoma	....	35	....	....	35	41
Oregon	....	2,424	....	....	2,424	....
Pennsylvania	....	8,577	....	....	8,577	....
South Dakota	....	32	....	....	32	....
Texas	....	31	....	....	31	....
Utah	....	3,411	....	....	3,411	....
Washington	....	1,644	....	....	1,644	....
Wisconsin	....	41,688	2,328	26,361	70,377	5,325
Export	....	878	....	....	878	....
	2,862,566	314,628	181,359	356,373	3,714,926	375,942

PRODUCED IN INDIANA AND KENTUCKY

Alabama	....	....	....	....	....	5,084
California	....	13,360	....	....	13,360	....
Idaho	....	104	....	....	104	....
Illinois	1,486,746	73,747	8,225	39,079	1,607,797	83,455
Indiana	5,387,857	77,136	167,983	198,894	5,831,870	467,297
Iowa	....	26,423	3,271	6,508	36,202	13,874
Kansas	....	294	....	....	294	7,643
Kentucky	540,533	94	5,674	10,817	557,118	46,866
Michigan	....	56,838	3,342	94,860	155,040	2,854
Minnesota	....	5,977	100	38	6,115	....
Missouri	....	6,745	77	581	7,403	....
Montana	....	1,963	....	....	1,963	....
Nebraska	....	646	....	1	647	....
New York	....	....	....	....	....	2,085
Ohio	7,179	25,206	6,019	8,520	46,924	12,445
Oklahoma	....	408	....	....	408	15,980
Oregon	....	1,860	....	215	2,075	....
Pennsylvania	22,603	....	....	....	22,603	....
Tennessee	....	....	....	34	34	94
Texas	....	41	....	....	41	49
Virginia	7,682	....	22,813	1,641	32,136	....
Washington	....	1,286	....	....	1,286	....
West Virginia	....	....	33,530	30	33,560	....
Wisconsin	....	40,544	12,230	4,221	56,995	42,785
Export	....	4,427	30	20,081	24,538	985
	7,452,600	337,099	263,294	385,520	8,438,513	701,496

(Continued on next page)

TABLE 4. - DISTRIBUTION OF COKE SHIPPED OR USED BY PRODUCER IN 1945 (Continued)

1712

PRODUCED IN MARYLAND

Destination	Coke					Total breeze
	Furnace use	Foundry use	Other industrial use	Domestic use	Total coke	
Maryland	2,058,067	205	521	....	2,058,793	186,134
New Jersey	....	....	....	....	....	18,239
	2,058,067	205	521	....	2,058,793	204,373
PRODUCED IN MICHIGAN AND WISCONSIN						
California	....	5,837	531	....	6,368	....
Colorado	....	1,785	....	....	1,785	....
Idaho	....	....	821	....	821	....
Illinois	....	25,757	1,150	32,207	59,114	572
Indiana	....	12,053	11,672	291	24,016	....
Iowa	....	8,688	839	1,811	11,338	3
Kansas	....	2,134	....	....	2,134	....
Kentucky	....	1,761	....	....	1,761	....
Maryland	....	4,030	....	....	4,030	....
Michigan	1,267,583	158,925	300,278	552,946	2,279,732	211,250
Minnesota	....	5,289	....	4,402	9,691	....
Missouri	....	5,022	....	....	5,022	....
Montana	....	66	510	....	576	....
Nebraska	....	1,560	34	379	1,973	....
New Jersey	....	....	....	....	....	263
New York	....	50,164	12,319	....	62,483	1,832
Ohio	80,635	92,790	10,776	67	184,268	224
Oklahoma	....	1,138	....	....	1,138	....
Pennsylvania	6,967	8,528	....	....	15,495	102
South Dakota	....	191	176	38	405	....
Texas	....	683	....	....	683	....
Utah	....	3,459	1,722	....	5,181	....
Washington	....	1,468	....	....	1,468	....
West Virginia	....	413	10,950	....	11,363	....
Wisconsin	....	64,692	109,676	331,847	506,215	55,378
Export	24,367	81,735	44,114	82,061	232,277	986
	1,379,552	538,168	505,568	1,006,049	3,429,337	270,610
PRODUCED IN MINNESOTA						
California	....	....	362	....	362	....
Iowa	....	....	827	274	1,101	....
Michigan	....	....	83	35	118	....
Minnesota	403,325	10,050	80,176	278,412	771,963	86,032
Montana	....	131	184	....	315	....
North Dakota	....	....	885	1,325	2,210	....
South Dakota	....	....	50	2,382	2,432	....
Washington	....	429	37	108	574	....
Wisconsin	....	....	872	4,735	5,607	....
Export	....	....	545	18,782	19,327	440
	403,325	10,610	84,021	306,053	804,009	86,472

(Continued on next page)

TABLE 4. - DISTRIBUTION OF COKE SHIPPED OR USED BY PRODUCER IN 1945 (Continued)

PRODUCED IN MISSOURI

Destination	Coke					Total breeze
	Furnace use	Foundry use	Other industrial use	Domestic use	Total coke	
Arkansas	....	....	58	....	58	132
California	....	11,419	1,294	....	12,713	....
Colorado	....	2,803	89	....	2,892	....
Illinois	....	6,031	9,435	19,873	35,339	9,027
Indiana	....	....	....	34	34	....
Iowa	....	112	4,050	995	5,157	....
Kansas	....	5,894	493	....	6,387	416
Kentucky	....	....	62	....	62	....
Louisiana	....	....	....	....	....	6
Missouri	....	53,476	48,403	99,375	201,254	6,809
Nebraska	....	....	12,142	25	12,167	....
Nevada	....	513	....	....	513	....
North Dakota	....	210	....	....	210	....
Oklahoma	....	1,081	....	....	1,081	114
Oregon	....	1,265	....	....	1,265	....
Texas	....	690	....	....	690	19
Utah	....	4,062	....	....	4,062	....
Washington	....	1,944	36	....	1,980	....
Wisconsin	....	....	....	1,360	1,360	....
	....	89,500	76,062	121,662	287,224	16,523

PRODUCED IN NEW JERSEY AND NEW YORK

Destination	Furnace use	Foundry use	Other industrial use	Domestic use	Total coke	Total breeze
Connecticut	....	....	....	5,699	5,699	....
Maine	....	....	....	350	350	....
Massachusetts	....	....	9,887	12,598	22,485	....
Michigan	....	....	....	11,547	11,547	....
New Hampshire	....	....	689	7,488	8,177	....
New Jersey	....	36,884	473,261	464,372	974,517	108,587
New York	3,103,697	9,174	1,467,409	1,238,370	5,818,650	494,838
Ohio	....	....	13,065	37	13,102	....
Pennsylvania	17,491	515	35	495	18,536	97
Rhode Island	....	....	....	762	762	....
Vermont	....	....	4,422	16,686	21,108	....
Export	....	....	81,930	142,816	224,746	16,092
	3,121,188	46,573	2,050,698	1,901,220	7,119,679	619,614

PRODUCED IN OHIO

Destination	Furnace use	Foundry use	Other industrial use	Domestic use	Total coke	Total breeze
Alabama	....	....	11,651	....	11,651	7,308
Illinois	35,028	....	3,723	....	38,751	....
Indiana	205	10,309	7,194	38,372	56,080	493
Iowa	....	31	21,707	....	21,738	....
Kentucky	28,744	6,461	69,496	43,669	148,370	1,555
Michigan	....	49,388	267	15,596	65,251	4,427
Missouri	....	147	....	....	147	....
New Jersey	....	1,998	....	....	1,998	....
New York	....	19,538	647	....	20,185	3,133
Ohio	7,830,806	125,968	332,214	253,218	8,542,206	725,527
Pennsylvania	11,730	12,232	580	33	24,575	264
South Carolina	....	....	....	....	....	2,995
Virginia	....	5,741	311,045	180	316,966	....
West Virginia	61,447	5,533	31,612	279	98,871	6,049
Export	....	7,444	....	1,520	8,964	34,867
	7,967,960	244,790	790,136	352,867	9,355,753	786,618

(Continued on next page)

TABLE 4. - DISTRIBUTION OF COKE SHIPPED OR USED BY PRODUCER IN 1945 (Continued)

PRODUCED IN PENNSYLVANIA

1712

Destination	Coke					Total breeze
	Furnace use	Foundry use	Other industrial use	Domestic use	Total coke	
Connecticut	....	6,042	423	9,730	16,195	43
Delaware	....	4,230	2,026	5,096	11,352	1,754
District of Columbia	....	194	69,267	1,932	71,393	396
Illinois	54,942	....	86	....	55,028	....
Indiana	1,831	....	1,969	601	4,401	....
Kansas	....	....	50	....	50	....
Kentucky	....	....	138	....	138	360
Maine	....	....	77	4,062	4,139	....
Maryland	178,508	29,684	42,933	1,901	253,026	54
Massachusetts	....	148	299	42,810	43,257	....
Michigan	112	182	202	44,510	45,006	....
Missouri	....	362	34	....	396	....
Nebraska	....	....	50	....	50	106
New Hampshire	....	....	....	13,058	13,058	....
New Jersey	....	34,399	30,292	84,688	149,379	8,765
New York	138,893	51,701	7,755	135,118	333,467	1,983
North Carolina	....	....	....	....	....	504
Ohio	1,410,909	30,692	20,153	32,196	1,493,950	11,853
Pennsylvania	15,888,515	221,281	509,341	325,687	16,944,824	1,333,755
Rhode Island	....	....	....	4,175	4,175	....
Vermont	....	30	325	6,797	7,152	....
Virginia	7,270	9,676	4,307	593	21,846	....
Washington	....	1,397	....	....	1,397	....
West Virginia	142,676	7,477	8,227	227	158,607	11,563
Export	6,727	26,763	104,221	179,510	317,221	1,268
	17,830,383	424,258	802,175	892,691	19,949,507	1,372,404

PRODUCED IN TENNESSEE

Destination	Furnace use	Foundry use	Other industrial use	Domestic use	Total coke	Total breeze
Alabama	2,048	2,048	....	....	4,096	1,120
Arkansas	....	224	....	....	224	....
California	....	576	....	....	576	....
Florida	....	32	....	....	32	....
Georgia	....	1,664	....	....	1,654	352
Indiana	32	224	....	....	256	....
Kansas	....	288	....	....	288	....
Kentucky	64	192	....	....	256	....
Louisiana	....	192	....	....	192	....
Mississippi	....	224	....	....	224	64
Missouri	....	32	....	....	32	....
New Mexico	....	416	....	....	416	....
North Carolina	....	2,464	....	....	2,464	....
Oklahoma	....	576	....	....	576	....
South Carolina	....	352	....	....	352	....
Tennessee	113,841	30,738	81,264	1,007	226,850	10,126
Texas	....	480	....	....	480	32
Utah	....	32	....	....	32	....
Virginia	576	480	....	....	1,056	2,112
West Virginia	....	480	....	....	480	....
	116,561	41,714	81,264	1,007	240,546	13,806

PRODUCED IN TEXAS

Destination	Furnace use	Foundry use	Other industrial use	Domestic use	Total coke	Total breeze
Texas	132,537	....	8,708	....	141,245	5,191

(Continued on next page)

TABLE 4. - DISTRIBUTION OF COKE SHIPPED OR USED BY PRODUCER IN 1945 (Continued)

PRODUCED IN UTAH

1712

Destination	Coke					Total breeze
	Furnace use	Foundry use	Other industrial use	Domestic use	Total coke	
California	1,098	....	2,012	....	3,110	178
Idaho	....	....	754	10	764	153
Montana	....	....	188	....	188	26,195
Nevada	....	....	6,119	....	6,119	....
Oregon	....	....	5,893	....	5,893	3,613
Utah	613,573	235	43,073	2,580	659,461	137,232
Washington	....	....	2,318	....	2,318	5,996
	614,671	235	60,357	2,590	677,853	173,367
PRODUCED IN VIRGINIA						
Alabama	....	508	....	....	508	....
Florida	....	....	94	....	94	....
Georgia	....	385	65	103	553	....
Illinois	1,245	....	....	....	1,245	....
Indiana	309	213	....	....	522	....
Kentucky	....	2,884	877	27	3,788	....
Louisiana	....	141	....	....	141	....
Maryland	....	608	....	....	608	....
Michigan	....	654	....	....	654	....
New York	....	67	....	....	67	....
North Carolina	....	2,759	2,284	820	5,863	....
Ohio	286	841	217	....	1,344	....
Oklahoma	....	77	....	....	77	....
South Carolina	....	406	1,358	1,596	3,360	....
Tennessee	....	5,231	4,009	333	9,573	....
Virginia	47,894	10,590	78,769	742	137,995	52
West Virginia	....	358	23,360	....	23,718	....
Wisconsin	....	186	....	....	186	....
Export	....	219	....	....	219	....
	49,734	26,127	111,033	3,621	190,515	52
PRODUCED IN WEST VIRGINIA						
Alabama	....	25	....	....	25	....
California	....	759	....	....	759	....
Connecticut	....	....	....	7,347	7,347	....
Florida	....	91	....	....	91	....
Illinois	....	46	150	....	196	....
Indiana	....	141	....	75	216	....
Kentucky	....	698	138	....	836	....
Louisiana	....	24	....	....	24	....
Maine	....	....	170	40	210	....
Maryland	24,496	2,880	10,340	108	37,824	....
Massachusetts	....	....	....	13,779	13,779	....
Michigan	....	2,000	....	6,663	8,663	....
New Hampshire	....	....	....	75	75	....
New Jersey	....	1,172	5,133	3,139	9,444	....
New York	....	815	20,749	1,542	23,106	....
North Carolina	....	608	....	....	608	....
Ohio	656,072	2,024	769	2,485	661,350	....
Pennsylvania	133,577	68,143	24,457	7,486	233,663	19,399
Rhode Island	....	....	....	38	38	....
Vermont	....	....	....	636	636	....
Virginia	....	8,561	489	72	9,122	....
West Virginia	977,135	14,278	744,970	1,480	1,737,863	140,448
Export	....	1,408	....	5,631	7,039	....
	1,791,280	103,673	807,365	50,596	2,752,914	159,847

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

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FOR RELEASE August 12, 1946

MINERAL MARKET REPORT
MMS NO. 1446

DIMENSION STONE IN 1945

Dimension stone (exclusive of slate) sold or used by producers in the United States in 1945, as reported by the producers to the Bureau of Mines, United States Department of the Interior, totaled 1,058,690 short tons valued at $17,848,638, an increase of 71 percent in quantity and 20 percent in value compared with 1944. This total includes all dimension stone--blocks or slabs of natural stone that are cut or trimmed to definite shapes and sizes--sold or used for rough construction, cut stone, slabs, mill blocks, rubble, monumental purposes, paving blocks, curbing, and flagging.

Use of dimension stone as a building stone has been greatly limited under conditions prevailing during recent years. In 1945, however, sales were almost double both in quantity and value those of the all-time low of 1944, and amounted to 4,913,600 cubic feet valued at $5,485,011. Sales of rubble, also classed as a building stone, but not included in the above total for dimension building stone, increased 189 percent in quantity and 138 percent in value.

Memorial stone production, which is an important branch of the granite and marble industries, has been maintained at relatively high levels. Sales of stone for monumental purposes amounted to 3,038,870 cubic feet valued at $11,360,627 in 1945 compared with 2,940,150 cubic feet valued at $11,396,526 in 1944, an increase of 3 percent in quantity but a slight decrease in value.

Paving block sales declined greatly in 1945 compared with 1944, and showed a decrease of 68 percent in number, 59 percent in tonnage, and 51 percent in value.

Sales of curbing dropped 24 percent in quantity to 158,260 cubic feet but rose 5 percent in value to $203,797. Flagstone sales increased 2 percent in quantity and 4 percent in value.

The following tables present the salient statistics of the dimension stone industries in 1945.

Prepared by Nan C. Jensen under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

(over)

Dimension stone sold or used by producers in the United States, 1944-45, by kinds and uses

Kind and use	1944	1945	
		Total	Percent of change
Granite:			
Building stone:			
Rough construction....short tons	8,790	15,220	+73
Value....	$36,636	$56,314	+54
Average per ton....	$4.17	$3.70	-11
Cut stone, slabs, and mill blocks....cubic feet	104,650	151,250	+45
Value....	$235,228	$328,366	+40
Average per cubic foot....	$2.25	$2.17	– 4
Rubble....short tons	44,000	108,880	+147
Value....	$88,994	$192,107	+116
Monumental stone....cubic feet	2,507,780	2,600,760	+4
Value....	$8,594,682	$8,228,343	– 4
Average per cubic foot....	$3.43	$3.16	– 8
Paving blocks....number....	649,360	212,570	-67
Value....	$45,017	$22,336	-50
Curbing....cubic feet	153,060	119,270	-22
Value....	$128,283	$153,819	+20
Total:			
Quantity....approximate short tons	283,780	361,650	+27
Value....	$9,128,840	$8,981,285	– 2
Basalt and related rocks (trap rock):			
Building stone:			
Rough construction....short tons	5,320	7,470	+40
Value....	$12,183	$19,702	+62
Average per ton....	$2.29	$2.64	+15
Rubble....short tons	13,140	196,050	+1,392
Value....	$4,991	$210,693	+4,121
Total			
Quantity....short tons	18,460	203,520	+1,002
Value....	$17,174	$230,395	+1,242
Marble:			
Building stone (cut stone, slabs, and mill blocks)....cubic feet	178,170	265,500	+49
Value....	$1,065,638	$1,573,148	+48
Average per cubic foot....	$5.98	$5.93	-1
Monumental stone....cubic feet	432,370	438,110	+ 1
Value....	$2,801,844	$3,132,284	+12
Average per cubic foot....	$6.48	$7.15	+10
Total:			
Quantity....approximate short tons	51,900	59,690	+15
Value....	$3,867,482	$4,705,432	+22

Kind and use	1944	1945	
		Total	Percent of change
Limestone:			
Building stone:			
Rough construction..............short tons	47,360	92,090	+94
Value....................................	$58,076	$138,825	+139
Average per ton..........................	$1.23	$1.51	+23
Cut stone, slabs, and mill blocks..cubic feet	730,570	2,298,140	+215
Value....................................	$481,631	$2,267,501	+371
Average per cubic foot...................	$0.66	$0.99	+50
Rubble.........................short tons	54,200	69,780	+29
Value....................................	$60,833	$73,413	+21
Flagging.......................cubic feet	76,250	65,060	-15
Value....................................	$22,789	$25,272	+11
Total:			
Quantity.............approximate short tons	161,640	334,480	+107
Value....................................	$623,329	$2,505,011	+302
Sandstone:			
Building stone:			
Rough construction..............short tons	22,440	9,220	-59
Value....................................	$51,874	$35,276	-32
Average per ton..........................	$2.31	$3.83	+66
Cut stone, slabs, and mill blocks..cubic feet	211,390	323,230	+53
Value....................................	$289,508	$389,594	+35
Average per cubic foot...................	$1.37	$1.21	-12
Rubble.........................short tons	18,970	13,150	-31
Value....................................	$62,750	$65,051	+4
Paving blocks..................number....	6,000	....	-100
Value....................................	$400	....	-100
Curbing........................cubic feet	54,000	38,990	-28
Value....................................	$65,989	$49,978	-24
Flagging.......................cubic feet	175,500	194,130	+11
Value....................................	$188,799	$197,051	4
Total:			
Quantity.............approximate short tons	74,160	64,240	-13
Value....................................	$659,320	$736,950	+12
Miscellaneous stone: 1/			
Building stone.................cubic feet	273,070	373,530	+37
Value....................................	$538,219	$676,285	+26
Average per cubic foot...................	$1.97	$1.81	-8
Rubble.........................short tons	4,750	2,570	-46
Value....................................	$13,052	$7,381	-43
Flagging.......................cubic feet	11,840	9,290	-22
Value....................................	$7,400	$5,899	-20
Total:			
Quantity.............approximate short tons	28,680	35,110	+22
Value....................................	$558,671	$689,565	+23
Total dimension stone, excluding slate:			
Quantity.............approximate short tons	618,620	1,058,690	+71
Value....................................	$14,854,816	$17,848,638	+20
Slate as dimension stone.approximate short tons	60,950	69,660	+14
Value....................................	$1,720,958	$1,971,740	+15
Total dimension stone, including slate:			
Quantity.............approximate short tons	679,570	1,128,350	+66
Value....................................	$16,575,774	$19,820,378	+20

1/ Includes soapstone, mica schist, volcanic rocks, argillite, and other varieties that cannot be classified in the principal groups.

Dimension stone sold or used by producers in the United States, 1944-45, by uses

Use	1944		1945	
	Quantity	Value	Quantity	Value
Dimension stone:				
Building stone:				
Rough construction.......short tons..	106,900	$696,988	155,750	$926,402
Cut stone, slabs, and mill blocks.cu.ft.	1,224,780	2,072,005	3,038,120	4,558,609
Approximate equivalent in short tons.	92,950	....	225,870	....
Rubble...................short tons..	135,060	230,620	390,430	548,645
Monumental stone..........cubic feet..	2,940,150	11,396,526	3,038,870	11,360,627
Approximate equivalent in short tons..	242,750	....	250,850	....
Paving blocks.............number......	655,360	45,417	212,570	22,336
Approximate equivalent in short tons..	3,800	....	1,560	....
Curbing...................cubic feet..	207,060	194,272	158,260	203,797
Approximate equivalent in short tons..	16,580	....	12,760	....
Flagging..................cubic feet..	263,590	218,988	268,480	228,222
Approximate equivalent in short tons..	20,580	....	21,470	....
Total dimension stone (quantities approximate, in short tons).........	618,620	14,854,816	1,058,690	17,848,638

Building stone sold or used by producers in the United States in 1945, by kinds

Kind	Rough			
	Construction		Architectural	
	Cubic feet	Value	Cubic feet	Value
Granite..........................	183,890	$56,314	61,120	$71,898
Basalt...........................	87,890	19,702	....	....
Marble...........................	....	....	84,130	174,971
Limestone........................	1,113,590	138,825	1,123,290	578,035
Sandstone........................	116,580	35,276	52,640	31,818
Miscellaneous....................	373,530	676,285	....	....
	1,875,480	926,402	1,321,180	856,722

Kind	Finished				Total	
	Sawed 1/		Cut 1/			
	Cubic feet	Value	Cubic feet	Value	Cubic feet	Value
Granite........	40,900	$79,992	49,230	$176,476	335,140	$384,680
Basalt.........	....	....	....	....	87,890	19,702
Marble.........	54,300	203,061	127,070	1,195,116	265,500	1,573,148
Limestone......	748,480	585,288	426,370	1,104,178	3,411,730	2,406,326
Sandstone......	2/270,590	2/357,776	(2/)	(2/)	439,810	424,870
Miscellaneous..	....	....	....	....	373,530	676,285
	2/1,114,270	2/1,226,117	2/602,670	2/2,475,770	4,913,600	5,485,011

1/ For granite, sawed stone corresponds to dressed stone for construction work (walls, foundations, bridges) and cut stone to architectural stone for high-class buildings.

2/ A small quantity of cut sandstone is included under sawed stone.

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MINERAL INDUSTRY SURVEYS
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

FOR RELEASE August 12, 1946.

MINERAL MARKET REPORT
MMS NO. 1447

CRUSHED AND BROKEN STONE IN 1945

Crushed and broken stone sold or used by producers in the United States in 1945, as reported by the producers to the Bureau of Mines, United States Department of the Interior, totaled 152,346,520 short tons valued at $161,459,264—a decrease of 2 percent in quantity but a slight increase in value compared with 1944. The average value at the quarry increased 2 cents a ton. Included in this total is stone sold or used for concrete aggregates, railroad ballast, metallurgical use (flux), agricultural limestone, refractory stone, riprap, limestone sand, alkali works, calcium carbide works, sugar and glass factories, paper mills, and in various other chemical and manufacturing processes. Stone used in the manufacture of lime and cement, asphaltic stone, and slate used for granules and flour are not included in this total.

Fifty-six percent of the crushed and broken stone was used for concrete aggregates and railroad ballast—85,373,260 short tons valued at $80,429,619. Of the 64,108,190 short tons used for concrete aggregates, 93 percent was produced by commercial operators. These operators reported an increase of 4 percent in their production for this use, compared with 1944, whereas Government agencies showed a drop of 40 percent in their production.

Metallurgical uses took 18 percent of the crushed and broken stone produced in 1945, but the 27,639,520 short tons valued at $22,076,393 showed a decrease of 11 percent in quantity and 12 percent in value compared with amount used in 1944. Limestone for agricultural purposes (17,395,570 short tons valued at $25,892,317—11 percent of the total tonnage of crushed stone in 1945) also decreased in quantity—8 percent—but increased 2 percent in value. Although agricultural limestone sales were less than in 1944, they were higher than in any of the previous years. Refractory stone (2,526,650 short tons valued at $4,545,339) showed an increase of 9 percent in quantity and 16 percent in value.

In 1945, limestone constituted 74 percent of all crushed and broken stone sold (excluding that used for making cement and lime), the same percentage as in 1944. Limestone is the most important of all stones used in crushed or broken form because it is regarded as an essential constituent of many products and necessary to the success of many chemical and manufacturing processes.

The following tables present the salient statistics of the crushed and broken stone industries in 1945.

Prepared by Nan C. Jensen under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

(over)

Crushed and broken stone sold or used by producers in the United States, 1944-45, by principal uses

Use	1944			1945		
	Short tons	Value		Short tons	Value	
		Total	Average		Total	Average
Concrete and road metal	64,795,490	$66,144,499	$1.02	64,108,190	$65,535,403	$1.02
Railroad ballast.......	18,285,060	12,556,676	.69	21,265,070	14,894,216	.70
Furnace flux(limestone)	31,080,330	25,130,113	.81	27,639,520	22,076,393	.80
Agricultural(limestone)	18,941,220	25,316,219	1.34	17,395,570	25,892,317	1.49
Alkali works...........	6,990,370	4,279,141	.61	7,076,330	4,068,060	.57
Riprap.................	4,011,210	4,947,843	1.23	4,801,170	5,589,584	1.16
Refractory stone 1/.....	2,313,640	3,922,238	1.70	2,526,650	4,545,339	1.80
Asphalt filler.........	449,560	855,480	1.90	455,360	971,570	2.13
Calcium carbide works..	509,860	476,292	.93	549,510	639,833	1.16
Sugar factories........	254,410	431,462	1.70	436,170	837,470	1.92
Glass factories........	512,710	820,150	1.60	460,750	792,067	1.72
Paper mills............	375,490	630,425	1.68	352,990	620,943	1.76
Other uses.............	6,441,610	15,276,803	2.37	5,279,240	14,996,069	2.84
	154,960,960	160,787,341	1.04	152,346,520	161,459,264	1.06
Portland cement (including "cement rock") 2/..	24,148,000	(3/)	.....	27,332,000	(3/)	.....
Natural cement ("cement rock") 2/.............						
Lime 4/...............	12,947,000	(3/)	.....	11,841,000	(3/)	.....
	192,056,000	(3/)	.....	191,520,000	(3/)	.....

1/ Ganister (sandstone), mica schist, dolomite, and soapstone.
2/ Value reported as cement in chapter on Cement.
3/ No value available for stone used in manufacture of cement and lime.
4/ Value reported as lime in chapter on Lime.

Stone for concrete and road metal sold or used by commercial producers in the United States, 1944-45, by methods of transportation 1/

Method of transportation	1944		1945	
	Short tons	Percent of total	Short tons	Percent of total
Truck..................	36,835,560	65	37,091,440	62
Rail...................	15,593,350	27	17,719,460	30
Waterway...............	1,813,980	3	2,355,590	4
Unspecified............	2,573,060	5	2,180,730	4
	56,815,950	100	59,347,220	100

1/ For practical purposes the entire output of noncommercial operations commonly is moved by truck. Including noncommercial production, crushed stone for concrete and road metal moved as follows- 1944: Truck 69 percent, rail 24 percent, water 3 percent, and unspecified 4 percent; 1945: Truck 65 percent, rail 28 percent, water 4 percent, and unspecified 3 percent.

Crushed and broken stone sold or used by producers in the United States in 1945, by kinds

Kind	Concrete and road metal			Railroad ballast		
	Short tons	Value		Short tons	Value	
		Total	Average		Total	Average
Granite.............	4,500,700	$4,601,823	$1.02	2,088,940	$1,936,361	$0.93
Basalt..............	9,641,430	11,857,053	1.23	3,886,680	3,661,564	.94
Marble..............	....	....	......	....	....	......
Limestone...........	42,455,370	43,727,822	1.03	9,307,200	7,377,682	.79
Sandstone...........	1,749,490	1,422,155	.81	338,090	323,886	.96
Miscellaneous stone1/	5,761,200	2,926,550	.68	5,644,160	1,594,723	.28
	64,108,190	65,535,403	1.02	21,265,070	14,894,216	.70

Kind	Other uses			Total		
	Short tons	Value		Short tons	Value	
		Total	Average		Total	Average
Granite.............	788,740	$1,533,295	$1.94	7,378,380	$8,071,479	$1.09
Basalt..............	1,178,910	1,783,763	1.51	14,707,020	17,302,380	1.18
Marble..............	111,540	579,395	5.19	111,540	579,395	5.19
Limestone...........	60,477,370	67,830,994	1.12	112,239,940	118,936,498	1.06
Sandstone...........	2,235,170	6,220,054	2.78	4,322,750	7,975,095	1.84
Miscellaneous stone1/	2,200,350	3,137,600	1.43	13,586,890	8,594,417	.63
	66,992,030	81,085,101	1.21	152,346,520	161,459,264	1.06

1/ Includes soapstone, mica schist, volcanic rock, argillite, and other varieties that cannot be classified in the principal groups.

Stone for concrete and road metal sold or used by commercial and noncommercial operators in the United States, 1941-45

(Figures for "noncommercial operations" represent tonnages reported by States, counties, municipalities, and other Government agencies, produced either by themselves or by contractors expressly for their consumption, often with publicly owned equipment; they do not include purchases from commercial producers. Figures for "commercial operations" represent tonnages reported by all other producers.)

Year	Commercial operations		Noncommercial operations		Total		
	Short tons	Average value per ton	Short tons	Average value per ton	Short tons	Average value per ton	Percent of change in quantity from preceding year
1941	75,588,820	$0.94	34,603,790	$1.04	110,192,610	$0.97	+19
1942	92,251,930	.97	15,449,080	1.05	107,701,010	.98	-2
1943	74,906,610	1.01	7,505,770	1.05	82,412,380	1.01	-23
1944	56,815,950	1.02	7,979,540	1.06	64,795,490	1.02	-21
1945	59,347,220	1.01	4,760,970	1.12	64,108,190	1.02	-1

Limestone (crushed and broken stone) sold or used by producers in the United States in 1944-45, by uses.

Use	1944		1945	
	Short tons	Value	Short tons	Value
Riprap	1,584,060	$1,828,330	1,777,940	$2,033,420
Fluxing stone	31,080,330	25,130,113	27,639,520	22,076,393
Concrete and road metal	40,180,460	40,166,631	42,455,370	43,727,822
Railroad ballast	9,361,070	7,275,853	9,307,200	7,377,682
Agriculture	18,941,220	25,316,219	17,395,570	25,892,317
Alkali works	6,990,370	4,279,141	7,076,330	4,068,060
Calcium carbide works	509,860	476,292	549,510	639,833
Coal-mine dusting	196,470	624,217	216,160	680,723
Filler (not whiting substitute):				
Asphalt	449,560	855,480	455,360	971,570
Fertilizer	373,970	599,932	401,160	661,348
Other	236,720	677,522	138,750	428,991
Filter beds	20,880	44,064	20,920	38,322
Glass factories	512,710	820,150	460,750	792,067
Limestone sand	380,230	278,970	615,400	482,093
Limestone whiting 1/	352,490	2,554,728	343,220	2,905,637
Magnesium metal (dolomite)	652,610	983,359	(2/)	(2/)
Magnesia works (dolomite) 3/	220,160	450,328	295,540	373,919
Mineral food	254,150	1,193,706	291,580	1,310,757
Mineral (rock) wool	43,480	45,610	39,170	39,575
Paper mills	375,490	630,425	352,990	620,943
Poultry grit	130,450	701,194	114,670	751,469
Refractory (dolomite)	1,075,050	1,130,022	1,027,090	1,120,136
Road base	885,460	706,341	298,930	233,979
Stucco, terrazzo, and artificial stone	12,460	80,518	25,590	148,332
Sugar factories	254,410	431,462	436,170	837,470
Other uses 4/	202,140	438,703	199,800	300,319
Use unspecified	68,230	207,678	305,250	423,321
	115,344,490	117,926,988	112,239,940	118,936,498

1/ Includes stone for filler for calcimine, caulking compounds, crayons, explosives, foundry facing powder, leather goods, linoleum, paint, paper, phonograph records, plastics, pottery, putty, roofing, rubber, tanning, tooth paste, wire coating, and unspecified uses.

2/ Included under "Other uses."

3/ Includes stone for refractory magnesia.

4/ Includes stone for acid neutralization, athletic-field marking, carbon dioxide, chemicals (unspecified), concrete blocks and pipes, electric products, fill material, oil-well drilling, rayon, rice milling, spalls, spray, waste rock, water treatment, and (1945) magnesium metal.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

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MINERAL MARKET REPORT
MMS NO. 1448

LITHIUM MINERALS IN 1945

During the war the utilization of lithium products reached record levels according to reports of producers to the Bureau of Mines, United States Department of the Interior. New plants and mines were opened to furnish large quantities of lithium compounds, such as lithium hydride -- a source of hydrogen for inflating radio antenna balloons included in Navy rescue equipment. But when Government contracts were cancelled other markets of comparable size were not available. As the cutback came at the end of 1944, the effect was felt throughout 1945, and mine shipments of lithium minerals - spodumene, amblygonite, lepidolite, and dilithium sodium phosphate - declined 82 percent from the record of 13,319 tons set in 1944.

The spodumene mine operated by the Solvay Process Company at Kings Mountain North Carolina, was idle after February, and the Black Hills Tin Co., Tinton, S. D. was inactive throughout 1945, but several other companies reported sales of spodumene, amblygonite, and lepidolite in South Dakota, and one mined lepidolite in Colorado.

Although production of all other lithium raw materials declined in 1945 the output of dilithium sodium phosphate increased. This compound is recovered as a flotation concentrate by the American Potash and Chemical Corporation at Searles Lake, California.

Tonnage and value of lithium ores and compounds shipped in recent years and approximations of total Li_2O content are shown in the following table.

Shipments of lithium ores and compounds from mines in the United States, 1935-39 (average) and 1940-45

Year	Ore (short tons)	Value	Li_2O (short tons)	Year	Ore (short tons)	Value	Li_2O (short tons)
1935-39 (average)--	1,327	$48,280	88	1942--------	5,405	$243,516	299
1940--------	2,011	80,679	113	1943--------	8,155	314,660	463
1941--------	3,832	115,718	209	1944--------	13,319	552,977	848
				1945--------	2,446	285,520	274

Prepared by G. W. Josephson and F. M. Barsigian, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

(over)

The eventual loss of Government orders was foreseen by the industry and considerable effort went into market analysis and laboratory research to find new and larger peacetime markets. Although their comparatively high cost is a handicap, lithium compounds have promise in many fields. They are of value in glass, welding fluxes, special lubricants, air conditioning, storage batteries, fluorescent light tubes, and as an alloying element; and the organic compounds of lithium are being investigated.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

For Release AUGUST 12, 1946.

MINERAL MARKET REPORT
MMS NO. 1449

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RADIO GRADE QUARTZ IN 1945

According to the Bureau of Mines, United States Department of the Interior, a period of great expansion in use of quartz crystal came to an end with the surrender of Japan. Although output of oscillators had tapered off somewhat during the first half of the year, the volume was large until military demand collapsed in August. Many companies went out of business or turned their attention to other products. A total of 113 companies were in production in 1944, but by the end of June 1945 the number had declined to 96. Although considerable cutting equipment went out of production after the war, there still remains a large capacity available to supply the coming peacetime needs.

Much of the remaining stock of crystal was turned over to the contracting Government agencies, who in turn assigned it to the War Assets Administration as surplus material. Stocks of crude quartz held by the Metals Reserve Company were also declared surplus and were acquired by War Assets. The bulk of the radio grade material is being transferred to the stockpile of the Army and Navy Munitions Board.

Quartz crystal has been recognized by Congress as one of the strategic minerals that must be stockpiled for national defense. Small deposits are known to exist in the United States but they are so limited that our commercial supply comes almost entirely from foreign sources.

At present Brazil enjoys a virtual monopoly. Up to now quartz crystal has been mined and classified in Brazil and has been shipped in crude form to the consuming countries, where it is cut into oscillators, resonators and optical shapes. The war stimulated this trade tremendously. Communication, detection and control devices are more essential than ever before. As quartz crystal oscillators and resonators assure accurate frequency control for electrical circuits, they were used by the millions to equip the allied armies. The need was so great that when the submarine warfare was at its height crystals were flown from Brazil to the United States in planes. The United States Government assisted Brazil to expand output by furnishing necessary equipment, technical advice, and funds.

The following table shows the number of piezoelectric devices produced during the war years.

Prepared by G. W. Josephson and F. M. Barsigian, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

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Imports of uncut quartz crystal, consumption of radio grade quartz, and production of finished crystals in the United States, 1940-45

Year	Imports of uncut quartz crystal[1]		Consumption of radio grade quartz[2] (pounds)	Production of finished crystals[3][4] (number)
	Pounds	Value		
1940	126,521	$264,436	31,000	(5)
1941	2,237,608	3,830,344	59,000	(5)
1942	2,612,106	8,987,108	682,000	6,888,000
1943	3,356,000	11,409,803	1,588,000	22,575,000
1944	2,300,506	11,178,643	1,858,000	29,939,000
1945	1,329,798	6,190,621	1,040,000	18,918,000

[1] Includes optical grade quartz used in production of optical instruments.
[2] 1940-44, War Production Board.
[3] 1942-44, War Production Board.
[4] Includes oscillators, resonators, and other piezoelectrical devices.
[5] Data not available.

As shown in the above table, both imports and consumption of quartz crystal (Brazilian pebble) were lower in 1945 than in 1944 - imports 42% and consumption 44%. Except for one pound reported from Chile, all our imports came from Brazil in 1945.

The search for domestic sources of high grade quartz crystal ended in practical failure. A few thousand pounds (3,934 in 1944) are known to have been produced but these quantities were negligible in comparison with requirements. Although probably small quantities were found there is no record of any domestic production in 1945.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

J. A. KRUG, Secretary

R. R. SAYERS, Director

AUG 21 1946
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FOR RELEASE August 13, 1946

MINERAL MARKET REPORT
MMS. NO. 1450

BLAST-FURNACE SLAG IN 1945

In 1945, output of commercialized blast-furnace slag totaled 12,635,868 tons, 2 percent more than the 12,405,992 tons reported in 1944. Sales of air-cooled slag increased 3 percent. These statistics are based on a canvass, conducted by the National Slag Association, of the 32 companies that prepared blast-furnace slag for commercial use. The results of this canvass were assembled in cooperation with the Bureau of Mines, United States Department of the Interior.

Practically all of the commercial production is east of the Mississippi River, chiefly at steel centers located in Ohio, Alabama, Pennyslvania, and Illinois. Shipments, however, are made into all States east of the Mississippi except some of the New England States outside the economic range of sources of supply. Shipments of slag are made by railroad, truck, and waterway. The accompanying tabulations show the pattern of distribution during the past four years.

The average shipping range of blast-furnace slag in 1945 was 63 miles by rail, 15 by truck, and 125 by waterway. In most instances shipments did not exceed 100 miles by railroad, 30 by truck, and 250 by waterway.

Details of the tonnage and value of slag consumed in the various uses are shown in an accompanying table. An outstanding development is the increase in production of lightweight slag for use in building construction. To service the seemingly insatiable demand for building materials in the latter part of 1945, installation of concrete block plants reached a record rate. As they began to operate, demand for lightweight aggregates grew in proportion. Tests and experience both in this country and in Europe indicated that expanded slag is particularly valuable in the United States, but other methods are under investigation also.

In 1945, slag processors reported that 158,186 tons of iron were recovered - approximately 24 pounds per ton of slag handled.

Not including those assigned to administrative, office, and sales activities 1,414 plant and yard employees were engaged in the production of commercial slag in 1945.

Prepared by G. W. Josephson, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division; Economics and Statistics Branch.

Shipments of commercial slag in the United States, 1941-45, by methods of transportation[1]

(Percent of total)

Method of transportation	1941	1942	1943	1944	1945
Rail	55	52	56	56	67
Truck	43	47	44	44	33
Waterway	2	1	(2)	(2)	(2)

[1] National Slag Association.
[2] Less than 0.5 percent.

Air-cooled blast-furnace slag sold or used by producers in the United States, 1944-45, by States[1]

	1944			1945		
	Quantity		Value	Quantity		Value
	Short tons	Percent of total		Short tons	Percent of total	
Alabama	3,089,075	26.8	$2,152,315	3,417,471	28.9	$2,570,830
Ohio	2,920,145	25.4	2,764,467	3,857,046	32.6	2,951,418
Pennsylvania	1,426,247	12.4	1,466,322	1,396,733	11.8	1,454,479
Other States[2]	4,071,448	35.4	3,180,613	3,163,214	26.7	3,005,613
	11,506,915	100.0	9,563,717	11,834,464	100.0	9,982,340

[1] National Slag Association.

[2] Illinois, New York, Maryland, Michigan, West Virginia, Kentucky, Colorado, Tennessee, and Massachusetts.

Blast-furnace slag sold or used by producers in the United States in 1945, by uses[1]

Use	Air-cooled						Granulated			Lightweight		
	Screened			Unscreened								
		Value			Value			Value			Value	
	Short tons	Total	Average per ton	Short tons	Total	Average per ton	Short tons	Total	Average per ton	Short tons	Total	Average per ton
Concrete pavements and structures	944,976	$830,399	$0.88	------	------	----	------	------	----	------	------	----
Roads other than concrete	5,464,432	5,052,266	.92	142,656	$57,649	$0.40	217,476	$57,211	$0.26	------	------	----
Railroad ballast	3,369,483	2,279,474	.68	62,538	20,761	.33	------	------	----	------	------	----
Airport runways	551,007	531,595	.96	------	------	----	------	------	----	------	------	----
Mineral wool	399,932	405,692	1.01	------	------	----	------	------	----	------	------	----
Roofing slag	219,019	294,361	1.34	------	------	----	------	------	----	------	------	----
Sewage trickle filter	13,779	16,543	1.20	------	------	----	------	------	----	------	------	----
Agricultural slag	38,067	39,833	1.05	------	------	----	27,117	23,738	.88	------	------	----
Cement manufacture	------	------	----	------	------	----	322,704	51,632	.16	------	------	----
Concrete products	132,325	122,201	.92	------	------	----	------	------	----	234,107	$335,931	$1.43
Other uses	294,669	269,449	.91	201,581	62,117	.31	------	------	----	------	------	----
Total: 1945	11,427,689	9,841,813	.86	406,775	140,527	.35	567,297	132,581	.23	234,107	335,931	1.43
1944	10,730,613	9,260,257	.86	776,302	303,460	.39	733,255	133,308	.18	165,822	232,508	1.40
1943	13,736,642	11,714,225	.85	1,364,779	540,465	.40	1,329,215	319,421	.24	76,971	112,817	1.47
1942	13,591,896	11,832,670	.87	2,073,611	884,178	.43	3,457,211	587,094	.17	------	------	----
1941	12,372,218	10,434,187	.84	797,363	390,082	.49	1,508,685	239,833	.16	------	------	----
1940	8,132,396	7,015,616	.86	1,230,832	507,288	.41	989,814	257,737	.26	------	------	----
1939	7,108,061	5,870,582	.83	812,220	361,554	.45	1,188,094	122,017	.10	------	------	----
1938	6,118,505	5,600,668	.92	1,202,754	567,224	.47	656,807	78,723	.12	------	------	----

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[1] National Slag Association.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

J. A. KRUG, Secretary
R. R. SAYERS, Director

For Release August 29, 1946

MINERAL MARKET REPORT
MMS. NO. 1450 A

BLAST-FURNACE SLAG IN 1945

In Mineral Market Report No. 1450, Blast-Furnace Slag in 1945, released August 13, 1946 the fourth paragraph should have read as follows:

Details of the tonnage and value of slag consumed in the various uses are shown in an accompanying table. An outstanding development is the increase in production of lightweight slag for use in building construction. To service the seemingly insatiable demand for building materials in the latter part of 1945, installation of concrete block plants reached a record rate. As they began to operate, demand for lightweight aggregates grew in proportion. Tests and experience both in this country and in Europe indicate that expanded slag is particularly valuable for this use. Most foamed slag is produced with Brosius and Caldwell machines in the United States, but other methods are under investigation also.

In the report released on August 13 the following portions of lines 8 and 9 of the above paragraph were omitted: "for this use. Most foamed slag is produced with Brosius and Caldwell machines"

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MINERAL INDUSTRY SURVEYS
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
J. A. KRUG, Secretary
R. R. SAYERS, Director

FOR RELEASE AUGUST 16, 1946.

AUG 1 1946
UNIVERSITY OF ILLINOIS

MINERAL MARKET REPORT
MMS NO. 1452

SAND AND GRAVEL IN 1945

Production of sand and gravel increased less than 1 percent in 1945 according to figures released by the Bureau of Mines, U. S. Department of the Interior. Total output was 195,524,000 short tons valued at $128,837,000 compared with 194,783,000 tons valued at $125,164,000 in 1944. Approximately 78 percent of the output was supplied by commercial plants and 22 percent by Federal, State, county and municipal governments.

COMMERCIAL PRODUCTION

Sales by commercial producers in 1945 were 152,138,298 short tons, increasing 1 percent over the 150,633,081 tons produced in 1944. Most of the output of commercial plants is used in building, paving, and as railroad ballast; this tonnage increased 4 percent to 133,581,481 tons from 128,712,964 tons in 1944, due to the 16 percent increase in building sand, and an 8 percent increase in building gravel. The following sections indicate trends of industrial sands in 1945.

Glass sand. Sales of glass sand increased 5 percent to 4,681,920 tons, with an average value of $1.79 a ton. Leading producing States in the order named were Illinois, Pennsylvania, West Virginia, New Jersey, and Missouri.

Molding sand. Production of molding sand decreased 20 percent to 7,190,856 tons. The value averaged $1.35 per ton. New Jersey, Illinois, Michigan, Ohio, and Indiana were the leading producing States.

Grinding and polishing sand (including blast sand). Sales of grinding and polishing sand decreased 28 percent to 642,511 tons averaging $1.60 a ton. States leading in production were Michigan, Illinois, Pennsylvania, Missouri and California.

Fire or furnace sand. Decreasing 15 percent in tonnage, sales of fire or furnace sand were 308,997 tons averaging $1.26 a ton. The largest output by States was from Indiana, Ohio, Illinois, Pennsylvania and New Jersey.

Engine sand. Sales of engine sand declined 3 percent to 2,771,896 tons averaging 69 cents a ton. West Virginia, Pennsylvania, Indiana, Illinois and Nebraska led in production.

Filter sand. Production of filter sand decreased 25 percent to 109,845 tons. Average value was $2.10 per ton, an increase of 16 percent.

Prepared by G. E. Tucker, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

Preparation. Washed, screened or otherwise prepared material comprised 85 percent (129,731,535 tons) of the total commercial production; average value was 77 cents a ton. The average value for unprepared sand and gravel was 46 cents a ton.

Transportation. Of the total commercial output, 44 percent was shipped by truck, 49 percent by railroad, and 7 percent by waterway.

GOVERNMENT-AND-CONTRACTOR OPERATIONS

Output of Government-and-contractor operations decreased 2 percent to 43,386,000 tons in 1945. States furnished 37 percent of the tonnage, counties 44 percent, municipalities 3 percent and other agencies 16 percent. Average value increased to 42 cents a ton from 37 cents a ton in 1944. Only 19 percent of the total was classified as prepared, and its average value increased to 85 cents a ton from 62 cents in 1944. Unprepared material was valued at 32 cent a ton. Construction and maintenance crews of States, counties, municipalities and other Government agencies produced 29,353,000 tons averaging 31 cents a ton, and contractors furnished 14,033,000 tons at 67 cents a ton.

Sand and gravel sold or used by producers in the United States, 1944-45, by commercial and Government-and-contractor operations and by uses

	1944			1945		
	Short tons	Value		Short tons	Value	
		Total	Average		Total	Average
COMMERCIAL OPERATIONS						
Sand:						
Glass	4,443,031	$8,227,502	$1.85	4,681,920	$8,374,218	$1.79
Molding	8,983,075	11,752,360	1.31	7,190,856	9,724,750	1.35
Building	26,356,834	16,154,889	.61	30,490,146	18,812,208	.62
Paving	16,886,764	10,319,762	.61	16,681,521	10,428,371	.63
Grinding and polishing[1]	897,983	1,563,511	1.74	642,511	1,029,501	1.60
Fire or furnace	362,978	479,711	1.32	308,997	387,872	1.26
Engine	2,852,648	1,993,119	.70	2,771,896	1,924,725	.69
Filter	146,008	263,922	1.81	109,845	231,026	2.10
Railroad ballast[2]	1,211,894	381,489	.31	1,082,626	400,762	.37
Other[3]	1,388,749	1,012,608	.73	1,116,353	1,117,153	1.00
Total commercial sand	63,529,964	52,148,873	.82	65,076,671	52,430,586	.81
Gravel:						
Building	25,946,102	19,729,145	.76	27,910,042	21,735,554	.78
Paving	37,043,972	26,199,925	.71	36,759,164	25,693,994	.70
Railroad ballast[4]	21,267,398	9,433,662	.44	20,657,982	9,518,328	.46
Other[5]	2,845,645	1,284,632	.45	1,734,439	1,043,910	.60
Total commercial gravel	87,103,117	56,647,364	.65	87,061,627	57,991,786	.67
Total commercial sand and gravel	150,633,081	108,796,237	.72	152,138,298	110,422,372	.73
GOVERNMENT-AND-CONTRACTOR OPERATIONS[6]						
Sand:						
Building	856,000	474,000	.55	1,018,000	428,000	.42
Paving	4,592,000	1,431,000	.31	5,631,000	1,998,000	.35
Total Government-and-contractor sand	5,448,000	1,905,000	.35	6,649,000	2,426,000	.36
Gravel:						
Building	2,663,000	1,626,000	.61	2,145,000	1,225,000	.57
Paving	36,039,000	12,837,000	.36	34,592,000	14,764,000	.43
Total Government-and-contractor gravel	38,702,000	14,463,000	.37	36,737,000	15,989,000	.44
Total Government-and-contractor sand and gravel	44,150,000	16,368,000	.37	43,386,000	18,415,000	.42
COMMERCIAL AND GOVERNMENT-AND-CONTRACTOR OPERATIONS						
Sand	68,978,000	54,054,000	.78	71,726,000	54,856,000	.76
Gravel	125,805,000	71,110,000	.57	123,798,000	73,981,000	.60
Grand total	194,783,000	125,164,000	.64	195,524,000	128,837,000	.66

See footnotes on following page.

1/ Includes blast sand as follows--1944: 482,293 tons valued at $1,228,744; 1945: 318,390 tons, $766,013.

2/ Includes ballast sand produced by railroads for their own use as follows--1944: 40,486 tons valued at $10,263; 1945: 17,792 tons, $2,429.

3/ Includes some sand used by railroads for fills and similar purposes as follows--1944: 286,965 tons valued at $57,060; 1945: 220,244 tons, $44,356.

4/ Includes ballast gravel produced by railroads for their own use as follows--1944: 9,097,590 tons valued at $2,896,111; 1945: 8,587,465 tons, $2,987,940.

5/ Includes some gravel used by railroads for fills and similar purposes as follows--1944: 1,605,789 tons valued at $308,780; 1945: 843,969 tons, $133,494.

6/ Approximate figures for States, counties, municipalities, and other Government agencies directly or under lease.

Industrial sand sold or used by producers in the United States, 1941-45, by uses

Year	Galss sand		Molding sand		Grinding and polishing sand1/	
	Short tons	Value	Short tons	Value	Short tons	Value
1941--	3,475,111	$6,113,529	7,246,081	$8,412,725	1,001,814	$1,388,966
1942--	3,622,487	6,784,427	8,255,991	10,745,552	806,878	1,363,168
1943--	3,971,931	7,376,566	8,924,654	12,093,670	837,662	1,428,463
1944--	4,443,031	8,227,502	8,983,075	11,752,360	897,983	1,563,511
1945--	4,681,920	8,374,218	7,190,856	9,724,750	642,511	1,029,501

Year	Fire or furnace sand		Engine sand		Filter sand		Total	
	Short tons	Value	Short tons	Value	Short tons	Value	Short tons	Value
1941--	325,803	$357,240	2,022,782	$1,312,433	263,966	$324,107	14,335,557	$17,909,000
1942--	368,465	491,972	2,559,008	1,749,204	176,833	223,137	15,789,662	21,357,460
1943--	394,753	539,273	2,862,025	1,983,364	158,555	258,547	17,149,580	23,679,883
1944--	362,978	479,711	2,852,648	1,993,119	146,008	263,922	17,685,723	24,280,125
1945--	308,997	387,872	2,771,896	1,924,725	109,845	231,026	15,706,025	21,672,092

1/ Includes blast sand as follows--1941: 371,049 tons, valued at $912,626; 1942: 422,922 tons, $1,071,018; 1943: 450,997 tons, $1,138,003; 1944: 482,293 tons, $1,228,744; 1945: 318,390 tons, $766,013.

Sand and gravel sold or used by commercial and Government-and-contractor producers in the United States in 1945, by States

State	Short tons	Value	State	Short tons	Value
Alabama	2,541,769	$1,580,687	New Hampshire	1/943,076	1/$93,812
Alaska	(1/2/)	(1/2/)	New Jersey	4,506,379	4,652,938
Arizona	528,059	442,959	New Mexico	2/448,438	2/317,968
Arkansas	2,688,622	1,930,780	New York	7,477,628	5,049,905
California	21,599,950	15,176,259	North Carolina	2,394,089	1,517,203
Colorado	1,800,405	1,147,027	North Dakota	1,769,086	523,163
Connecticut	1,611,216	841,509	Ohio	9,420,380	7,985,018
Delaware	82,674	43,678	Oklahoma	1,274,186	761,448
Florida	1,314,011	1,074,055	Oregon	4,476,504	3,681,255
Georgia	605,036	350,264	Pennsylvania	6,768,944	7,247,613
Hawaii	(2/)	(2/)	Puerto Rico	(2/)	(2/)
Idaho	1,597,112	952,971	Rhode Island	317,300	221,530
Illinois	12,613,555	8,606,155	South Carolina	319,933	202,335
Indiana	6,947,958	4,115,842	South Dakota	2,642,494	1,106,983
Iowa	6,030,531	2,091,391	Tennessee	3,097,626	2,578,379
Kansas	3,082,392	1,674,742	Texas	11,038,244	7,595,904
Kentucky	1,174,510	1,033,424	Utah	2,147,910	1,280,578
Louisiana	2,797,571	2,585,945	Vermont	134,977	61,172
Maine	1,888,778	771,724	Virginia	2,965,270	2,721,351
Maryland	2,898,808	2,694,876	Washington	6,949,809	3,872,633
Massachusetts	2,928,420	1,696,387	West Virginia	2,501,773	3,323,289
Michigan	12,199,977	6,107,890	Wisconsin	8,384,279	4,111,282
Minnesota	9,125,117	2,402,530	Wyoming	1,541,369	693,239
Mississippi	1,606,345	812,046	Undistributed 3/	5,934,000	4,387,000
Missouri	3,489,775	2,780,467		195,524,000	128,837,000
Montana	2/2,035,192	2/1,067,295			
Nebraska	3,882,461	1,956,560			
Nevada	999,781	914,476			

1/ Output of commercial producers included under "Undistributed."
2/ Output of Government-and-contractor operations included under "Undistributed."
3/ Items covered by "1" and "2."

Comparison of number and output of commercial sand and gravel plants in the United States, 1944-45, by size groups[1]

Size group in short tons	1944				1945			
	Plants[2]		Production		Plants[2]		Production	
	Number	Percent of total	Short tons	Percent of total	Number	Percent of total	Short tons	Percent of total
Less than 25,000	1,148	51.1	9,931,000	7.1	1,001	47.6	9,345,000	6.6
25,000 and less than 50,000	415	18.5	15,001,000	10.7	370	17.6	13,394,000	9.4
50,000 and less than 100,000	297	13.2	21,050,000	15.1	328	15.6	23,219,000	16.3
100,000 and less than 200,000	225	10.0	31,157,000	22.3	238	11.3	33,590,000	23.6
200,000 and less than 300,000	77	3.4	18,466,000	13.2	78	3.7	19,089,000	13.4
300,000 and less than 400,000	37	1.7	12,583,000	9.0	44	2.1	15,039,000	10.6
400,000 and less than 500,000	17	.8	7,610,000	5.5	16	.8	7,023,000	4.9
500,000 and less than 600,000	10	.4	5,418,000	3.9	9	.5	4,731,000	3.3
600,000 and less than 700,000	7	.3	4,517,000	3.2	6	.3	3,909,000	2.7
700,000 and less than 800,000	4	.2	2,856,000	2.1	3	.1	2,206,000	1.5
800,000 and less than 900,000	4	.2	3,547,000	2.5	3	.1	2,520,000	1.8
900,000 and less than 1,000,000					3	.1	2,800,000	2.0
1,000,000 and over	5	.2	7,466,000	5.4	4	.2	5,604,000	3.9
	2,246	100.0	139,602,000	100.0	2,103	100.0	142,469,000	100.0

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[1] Plants operated by or for States, counties, municipalities and other Government agencies are not included; also not included are approximately 180 railroad plants with an output of 11,031,000 tons of sand and gravel in 1944 and 165 plants with an output of 9,669,000 tons in 1945.

[2] Includes a few companies operating more than 1 plant but not submitting separate returns for individual plants.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

J. A. KRUG, Secretary **R. R. SAYERS, Director**

FOR RELEASE August 21, 1946.

MINERAL MARKET REPORT
MMS NO. 1453

LIME IN 1945 - FINAL ANNUAL FIGURES

The lime industry in 1945 experienced a moderate decline compared with 1944, according to figures submitted by producers to the Bureau of Mines, United States Department of the Interior. Sales of "open-market" lime totaled 5,920,579 short tons—a decline of 9 percent from 1944 and 10 percent from the all-time high of 1943. The average price per ton increased 24 cents. Quicklime represented 77 percent and hydrated lime 23 percent of the total, whereas in 1944 the percentages were 80 and 20, respectively. Sales of agricultural lime declined 20 percent. The upward trend in the construction industries was reflected in a 6-percent gain in sales of building lime. The decline in production of war materials without a corresponding gain in peacetime manufacturing industries led to a 9-percent drop in sales of chemical and industrial lime and an 8-percent drop in sales of dead-burned dolomite.

The supply situation with respect to chemical and industrial lime continued to be somewhat critical throughout the year. Threatened shortages were due primarily to unavilability of labor.

In 1945 lime was produced at 189 plants in 36 States and 2 Territories. As stocks of lime are small, the sales given in the accompanying tables are regarded as equivalent to production of "open-market" lime.

The net mill realization (excluding container cost) per ton of lime sold in the open market in 1945 averaged $7.76, a gain of 24 cents over 1944 and 49 cents over 1942. The gain in 1945 reflects the various upward price adjustments authorized by the OPA. As in 1944, the largest increase was in agricultural lime.

The use pattern of lime changes from year to year according to circumstances. Direct and indirect war uses have characterized recent years, and war was the principal controlling influence during most of 1945. A drift to peacetime uses was under way during the last quarter of the year, but reconversion had made too little progress by the end of the year to have any marked effect on the lime industry.

Size of plants.- The accompanying table presents a grouping of lime plants according to size. The progressive decline in the number of plants operating continued in 1945. The 189 producers in 1945 contrast strikingly with the 450 in 1925, when production was only about three-fourths as great. The decline in the number of active plants is most pronounced in the groups of smaller operations, particularly in the group producing 1,000 to 5,000 tons a year.

Shipments.- Output exceeded apparent consumption in 13 of the 36 lime-producing States in 1945. The excess of out-of-State over into-State movements was large only in Missouri, Ohio, Tennessee, and West Virginia.

Prepared by F. D. Gradijan, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

Lime sold by producers in the United States 1944-45, by types and major uses

	1944		1945		
	Short tons	Value 1/	Short tons	Value 1/	Percent of change in tonnage
By types:					
Quicklime----------	5,150,545	$38,055,518	4,565,551	$34,496,214	-11
Hydrated lime------	1,323,018	10,642,644	1,355,028	11,422,254	+2
Total lime 2/---	6,473,563	48,698,162	5,920,579	45,918,468	-9
By uses:					
Agricultural:					
Quicklime--------	168,364	1,085,217	120,529	827,920	-28
Hydrated lime----	298,026	2,391,658	252,881	2,078,924	-15
	466,390	3,476,875	373,410	2,906,844	-20
Building:					
Quicklime--------	126,944	1,225,216	115,521	1,147,021	-9
Hydrated lime----	393,056	3,261,816	434,026	3,762,343	+10
	520,000	4,487,032	549,547	4,909,364	+6
Chemical and industrial:					
Quicklime--------	3,564,447	24,303,473	3,142,167	21,907,562	-12
Hydrated lime----	631,936	4,989,170	668,121	5,580,987	+6
	4,196,383	29,292,643	3,810,288	27,488,549	-9
Refractory (dead-burned dolomite)--	1,290,790	11,441,612	1,187,334	10,613,711	-8

1/ Selling value, f. o. b. plant, excluding cost of containers.
2/ Includes lime used by producers (captive tonnage) as follows—1944: 432,166 tons, valued at $2,570,544; 1945: 368,572 tons, $2,216,373.

Uses.- The total effective lime content of all agricultural liming materials sold in 1945 decreased 9 percent from 1944. As building construction of types that use mortar or plaster was at a low level throughout 1945, sales of building lime were correspondingly low, but a gain of 6 percent in sales of building lime indicate an upward trend. Although there was a general over-all decline of 9 percent in the quantity of lime sold for chemical and industrial uses, the quantities used in several industries increased. Large increases were recorded for water purification, petroleum refining, bleach, sand-lime and slag brick, and paints. The large decline in sales for calcium carbide and cyanamide manufactured was to be expected because of a diminishing need for acetylene gas in welding and in the manufacture of synthetic rubber. The quantities of lime sold for ore concentration and explosives also declined greatly.

Hydrated lime.- Production of hydrated lime, which gained 2 percent in 1945 represented 23 percent of the total output compared with 20 percent in both 1943 and 1944. Active hydrating plants numbered 125 and were distributed in 34 States and 2 Territories. There were no significant changes in the quantities of hydrated lime used for several of the major applications in 1945, but substantial increases are recorded in the quantities sold for insecticides, paper manufacture, petroleum refining, sewage treatment, and water purification.

Lime sold by producers in the United States, 1944-45, by States

State or Territory	1944 Active plants	1944 Short tons	1944 Value	1945 Active plants	1945 Short tons	1945 Value
Alabama	7	333,414	$2,004,391	7	315,559	$2,076,768
Arizona	3	61,091	527,792	3	58,736	522,609
California	9	130,763	1,441,604	9	135,158	1,515,497
Florida	4	17,959	185,565	3	18,431	211,077
Georgia	1	6,079	45,315	1	3,864	32,797
Hawaii	1	8,726	140,776	1	8,114	130,085
Illinois	7	290,988	2,266,539	7	287,607	2,229,335
Maryland	9	69,514	534,743	7	66,675	502,376
Massachusetts	3	87,295	745,573	3	94,499	816,733
Michigan	3	119,446	869,337	3	(1/)	(1/)
Missouri	11	908,340	5,820,028	10	753,932	5,031,222
New York	4	193,395	1,410,956	3	(1/)	(1/)
Ohio	20	1,467,575	11,876,409	18	1,420,983	11,693,615
Pennsylvania	35	1,026,292	7,933,361	31	903,914	7,221,808
Puerto Rico	5	5,692	121,702	5	7,504	173,643
Tennessee	9	193,202	1,246,802	8	207,587	1,373,268
Texas	8	94,923	757,141	7	105,277	807,332
Utah	4	51,202	379,550	5	47,484	353,671
Vermont	4	45,624	294,902	4	38,096	267,478
Virginia	20	154,160	1,129,342	15	118,707	835,575
Washington	4	55,241	667,546	2	(1/)	(1/)
West Virginia	7	493,724	3,464,019	6	511,509	3,620,401
Wisconsin	9	138,750	1,030,322	9	124,560	988,422
Other States 2/	23	520,168	3,804,447	22	692,383	5,514,756
	210	6,473,563	48,698,162	189	5,920,579	45,918,468

1/ Included under "Other States."
2/ 1944: Arkansas, Colorado, Connecticut, Indiana, Louisiana, Maine, Minnesota, Montana, Nevada, New Jersey, New Mexico, North Carolina, Oklahoma, Oregon, and South Dakota. 1945: Arkansas, Colorado, Connecticut, Indiana, Louisiana, Maine, Minnesota, Montana, Nevada, New Jersey, New Mexico, North Carolina, Oklahoma, Oregon, and South Dakota.

Distribution of lime (including refractory) plants, 1944-45, according to size of production

Size group (short tons)	1944 Plants	1944 Production Short tons	1944 Production Percent of total	1945 Plants	1945 Production Short tons	1945 Production Percent of total
Less than 1,000	25	10,929	(1/)	27	11,448	(1/)
1,000 and less than 5,000	45	120,763	2	38	109,488	2
5,000 and less than 10,000	28	194,032	3	22	153,868	3
10,000 and less than 25,000	35	532,642	8	29	480,582	8
25,000 and less than 50,000	35	1,267,897	20	35	1,267,909	21
50,000 and less than 100,000	27	1,788,065	28	24	1,544,176	26
100,000 and over	15	2,559,235	39	14	2,353,108	40
	210	6,473,563	100	189	5,920,579	100

1/ Less than 1 percent.

Lime sold by producers in the United States, 1944-45, by uses

Use	1944			1945		
	Short tons	Value		Short tons	Value	
		Total	Avg.		Total	Avg.
Agricultural----------	466,390	$3,476,875	$7.45	373,410	$2,906,844	$7.78
Building:						
Finishing------------	210,188	1,847,655	8.79	229,034	2,131,458	9.31
Mason's--------------	224,544	1,924,728	8.57	241,802	2,111,177	8.73
Other----------------	85,268	714,649	8.38	78,711	666,729	8.47
	520,000	4,487,032	8.63	549,547	4,909,364	8.93
Chemical and industrial:						
Carbide and cyanamide	476,810	3,256,788	6.83	364,944	2,534,625	6.95
Glassworks-----------	210,802	1,553,211	7.37	220,853	1,631,019	7.39
Insecticides and disinfectants--------	79,378	632,573	7.97	82,507	713,465	8.65
Metallurgical:						
Steel flux-----------	1,173,657	7,817,450	6.66	1,064,005	7,136,870	6.71
Ore concentration-----	496,001	3,221,744	6.50	342,742	2,316,172	6.76
Other----------------	58,279	455,654	7.82	35,955	302,082	8.40
Paper mills----------	532,391	3,742,157	7.03	510,832	3,740,694	7.32
Sewage---------------	64,189	478,498	7.45	71,496	561,649	7.86
Tanneries------------	82,723	612,750	7.41	81,213	613,493	7.55
Water purification----	374,788	2,765,975	7.38	402,158	3,034,810	7.55
Other uses 2/---------	647,365	4,755,843	7.35	633,583	4,903,670	7.74
	4,196,383	29,292,643	6.98	3,810,288	27,488,549	7.21
Dead-burned dolomite----	1,290,790	11,441,612	8.86	1,187,334	10,613,711	8.94
Total lime 3/--------	6,473,563	48,698,162	7.52	5,920,579	45,918,468	7.76
Hydrated lime included in above distribution--	1,323,018	10,642,644	8.04	1,355,028	11,422,254	8.43

1/ Included under "Other uses."

2/ Includes bleach, liquid and powder, silica brick, chromates and bichromates, coke and gas, explosives, food products, magnesia, paints, petroleum, sugar, and other chemical uses.

3/ Includes lime used by producers (captive tonnage) as follows--1944: 432,166 tons, valued at $2,570,544; 1945: 368,572 tons, $2,216,373.

Agricultural lime and other liming materials sold by producers in the United States, 1944-45, by kinds, in short tons

Kind	1944		1945	
	Gross	Effective lime content 1/	Gross	Effective lime content 1/
Lime:				
Quicklime-------------------	168,364	143,110	120,529	102,450
Hydrated lime---------------	298,026	208,620	252,881	177,020
Oystershells (crushed)2/-------	109,989	51,690	3/125,682	3/ 59,070
Limestone------------------------	18,941,220	8,902,370	17,395,570	8,175,920
Calcareous marl----------------	178,036	74,780	154,122	64,730
Total----------------------	----------	9,380,570	----------	8,579,190

1/ Effective lime contents as follows: Quicklime, 85 percent; hydrated lime, 70 percent; limestone and oystershells, 47 percent; calcareous marl, 42 percent.

2/ Figures supplied by Fish and Wildlife Service.

3/ Preliminary figure.

Hydrated lime sold by producers in the United States, 1944-45, by States

State or Territory	1944			1945		
	Active plants	Short tons	Value	Active plants	Short tons	Value
Alabama	5	35,528	$283,558	5	38,230	$363,676
California	7	32,008	381,378	7	38,748	485,482
Florida	3	10,245	106,978	(1/)	(1/)	(1/)
Georgia	1	6,079	45,315	1	3,540	28,035
Hawaii	1	8,686	138,976	1	8,105	129,680
Illinois	5	37,001	282,527	5	34,780	268,729
Maryland	5	30,652	226,751	5	34,653	259,508
Massachusetts	3	47,732	389,906	(1/)	(1/)	(1/)
Missouri	9	196,196	1,364,397	8	190,861	1,439,524
New York	3	14,390	109,166	(1/)	(1/)	(1/)
Ohio	16	326,366	2,421,907	14	359,078	2,832,982
Pennsylvania	15	251,156	2,118,008	12	250,972	2,189,738
Puerto Rico	3	3,827	88,856	(1/)	(1/)	(1/)
Tennessee	7	43,790	343,491	6	47,889	388,361
Texas	5	35,075	332,657	5	38,896	355,735
Virginia	13	48,200	392,803	10	41,247	336,070
West Virginia	5	43,496	275,440	4	39,635	260,554
Other States 2/	34	152,591	1,340,530	42	228,394	2,084,180
	140	1,323,018	10,642,644	125	1,355,028	11,422,254

1/ Included under "Other States."

2/ 1944: Arizona, Arkansas, Colorado, Connecticut, Indiana, Louisiana, Maine, Michigan, Minnesota, Montana, Nevada, New Jersey, North Carolina, Oregon, South Dakota, Utah, Vermont, Washington, and Wisconsin. 1945: Arizona, Arkansas, Colorado, Connecticut, Florida, Indiana, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Montana, Nevada, New Jersey, New York, North Carolina, Oregon, Puerto Rico, South Dakota, Utah, Vermont, Washington, and Wisconsin.

Hydrated lime sold by producers in the United States, 1944-45, by uses

Use	1944			1945		
	Short tons	Value		Short tons	Value	
		Total	Avg.		Total	Avg.
Agricultural	298,026	$2,391,658	$8.02	252,881	$2,078,924	$8.22
Building	393,056	3,261,816	8.30	434,026	3,762,343	8.67
Chemical and industrial:						
Insecticides	50,192	427,127	8.51	60,233	538,828	8.95
Metallurgy	43,750	356,227	8.14	37,960	319,628	8.42
Paper mills	26,069	199,568	7.66	30,040	247,508	8.24
Petroleum	24,863	235,172	9.46	34,857	329,502	9.45
Sewage	14,324	120,900	8.44	29,241	242,681	8.30
Sugar	16,752	198,535	11.85	15,717	193,637	12,32
Tanneries	47,445	363,522	7.66	44,841	352,624	7.86
Water purification	168,117	1,327,414	7.90	181,350	1,497,703	8.26
Other uses 1/	240,424	1,760,705	7.32	233,882	1,858,876	7.95
	631,936	4,989,170	7.90	668,121	5,580,987	8.35
Total hydrated lime	1,323,018	10,642,644	8.04	1,355,028	11,422,254	8.43

1/ Includes bleach, liquid and powder, silica brick, coke and gas, food products, glass, paints, and other chemical uses.

Lime supplies available in continental United States, 1945, by States, in short tons

State	Sales by producers	Shipments1/ from State	Shipments into State	Supply Quicklime	Supply Hydrated	Supply Total
Alabama	315,559	97,016	38,580	241,536	15,587	257,123
Arizona	58,736	4,479	5,153	57,185	2,225	59,410
Arkansas	(2/)	(2/)	(2/)	70,591	4,657	75,248
California	135,158	19,669	36,165	110,398	41,256	151,654
Colorado	(2/)	(2/)	(2/)	33,875	4,686	38,561
Connecticut	(2/)	(2/)	(2/)	18,724	11,641	30,365
Delaware	----------	----------	50,350	35,890	14,460	50,350
District of Columbia	----------	----------	7,944	862	7,082	7,944
Florida	18,431	----------	49,155	42,828	24,758	67,586
Georgia	3,864	910	68,578	50,157	21,375	71,532
Idaho	----------	----------	2,681	1,203	1,478	2,681
Illinois	287,607	126,601	241,906	321,267	81,645	402,912
Indiana	(2/)	(2/)	(2/)	184,579	29,492	214,071
Iowa	----------	----------	62,824	47,446	15,378	62,824
Kansas	----------	----------	32,352	18,311	14,041	32,352
Kentucky	----------	----------	155,408	140,412	14,996	155,408
Louisiana	(2/)	(2/)	(2/)	61,703	22,086	83,789
Maine	(2/)	(2/)	(2/)	58,332	9,215	67,547
Maryland	66,675	17,199	121,174	112,794	57,856	170,650
Massachusetts	94,499	60,331	27,546	35,093	26,621	61,714
Michigan	(2/)	(2/)	(2/)	185,340	56,008	241,348
Minnesota	(2/)	(2/)	(2/)	59,783	11,914	71,697
Mississippi	----------	----------	16,332	11,445	4,887	16,332
Missouri	753,932	524,001	33,576	162,896	100,611	263,507
Montana	(2/)	(2/)	(2/)	35,553	3,353	38,906
Nebraska	----------	----------	9,921	2,666	7,255	9,921
Nevada	(2/)	(2/)	(2/)	23,053	1,786	24,839
New Hampshire	----------	----------	9,196	6,642	2,554	9,196
New Jersey	(2/)	(2/)	(2/)	67,000	96,038	163,038
New Mexico	(2/)	(2/)	(2/)	1,572	3,081	4,653
New York	(2/)	(2/)	(2/)	249,624	93,334	342,958
North Carolina	(2/)	(2/)	(2/)	42,904	29,547	72,451
North Dakota	----------	----------	7,068	426	6,642	7,068
Ohio	1,420,983	944,994	286,185	646,387	115,787	762,174
Oklahoma	(2/)	(2/)	(2/)	12,287	9,401	21,688
Oregon	(2/)	(2/)	(2/)	31,089	4,834	35,923
Pennsylvania	903,914	427,561	490,219	783,255	183,317	966,572
Rhode Island	----------	----------	8,650	4,274	4,376	8,650
South Carolina	----------	----------	9,447	3,010	6,437	9,447
South Dakota	(2/)	(2/)	(2/)	1,454	2,543	3,997
Tennessee	207,587	172,834	12,752	17,009	30,496	47,505
Texas	105,277	38,210	22,207	55,076	34,198	89,274
Utah	47,484	2,053	9,152	49,582	5,001	54,583
Vermont	38,096	13,527	276	24,193	652	24,845
Virginia	118,707	74,454	80,633	82,319	42,567	124,886
Washington	(2/)	(2/)	(2/)	17,710	8,194	25,904
West Virginia	511,509	448,748	175,271	221,142	16,890	238,032
Wisconsin	124,560	69,918	72,657	95,483	31,816	127,299
Wyoming	----------	----------	902	200	702	902
Undistributed	692,383	341,298	1,205,898	----------	----------	----------
	5,904,961	3,383,803	3,350,158	4,536,560	1,334,756	5,871,316

1/ Includes 33,645 tons exported or unclassified as to destination.

2/ Included under "Undistributed."

MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

J. A. KRUG, Secretary
R. R. SAYERS, Director

AUGUST 1946

MINERAL MARKET REPORT
M.M.S. NO. 1454

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR APRIL 1, 1945 TO MARCH 31, 1946

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Prepared by Anthracite and Coke Section, Coal Economics Division, Economics and Statistics Branch, Bureau of Mines.

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INTRODUCTION

The publication of this report on the distribution of Pennsylvania anthracite was made possible by the cooperation of producers and wholesalers who voluntarily submitted to the Bureau of Mines, U. S. Department of the Interior, detailed data on their shipments of anthracite during the 1945-46 coal year. As is customary in statistical surveys of the Bureau of Mines, individual company shipments are treated as confidential and data are not published on cities receiving anthracite from less than three shippers except as part of summarized totals.

The distribution statistics contained in this report account for more than ninety-nine percent of total shipments made during the 1945-46 coal year. The Bureau wishes to thank the producers and wholesalers for reporting so completely and for the wholehearted support and cooperation which has made the publication of this study possible. It is hoped that reports such as this will prove to be of value and material assistance to the industry in planning its economic and marketing programs.

Pennsylvania anthracite as discussed in this study refers to that coal produced in the Lehigh, Schuylkill and Wyoming coal regions located in the following ten counties of Northeastern Pennsylvania: Carbon, Columbia, Dauphin, Lackawanna, Lebanon, Luzerne, Northumberland, Schuylkill, Susquehanna, and Wayne. As coal produced in the Bernice Basin of Sullivan County is classified officially as semi-anthracite, it is not included in this publication.

SUMMARY

The report form used to obtain the distribution data herein was designed to avoid duplication of reported tonnage. Each producer was requested to furnish tonnage figures for all direct shipments made to the selected destinations in the United States and Canada shown on the report form, as well as complete information on all coal sold to other producers, wholesalers, and dock operators. Producers, wholesalers, and dock operators purchasing this coal, in turn, reported final destinations on all direct sales, thus minimizing greatly the possibility of error in tracing shipments to the point of consumption. The 251 cities selected to appear on the report form were considered to be of primary interest, from a geographical as well as from a tonnage standpoint. In the aggregate, receipts of anthracite by them represents 54 percent of the total anthracite shipments during the 1945-46 coal year. Over-the-road truck shipments account for 15 percent of total anthracite shipments for the year and are presented on Page 25 of this report only by state totals, since it was not considered practicable at this time to request final city destinations on all truck movements. The remaining 31 percent is represented by shipments reported in the aggregate for "All Other Cities, States, Provinces, and Other Countries" and by a small tonnage to unknown destinations in Canada. Calculated on the basis of total rail shipments, the total for the 251 cities represents a much greater percentage of coverage for the all-rail movement.

Since reporting companies were requested to furnish only state totals for truck shipments, it will be found that data shown in this report on individual destinations normally served by truck are not comparable to the data published for the same cities by the Bureau in reports SFD-1, 2, and 3, covering the distribution of anthracite for the coal years in the period April 1, 1942 to March 31, 1945. Shipments to destinations not normally served by truck are comparable with those in the SFD-1, 2, and 3 reports. It should be pointed out, also, that in comparing shipments to destinations in the 1945-46 coal year with those made to the same destinations in former years proper weight should be given to the difference in production for the years under study. Generally, the data for the coal year 1945-46 are not so comprehensive in scope as those contained in the SFD-1, 2, and 3 reports but are believed to be in sufficient detail to provide adequate statistical information for current needs.

The summary table appearing on Page 3 is a recapitulation of shipments, by sizes, to States, Provinces, and Countries of destination. As shown in this table, detailed information was requested on 17 States, 2 Canadian Provinces, and the District of Columbia, and aggregate totals only for "All Other States," and all Provinces of Canada, other than Ontario and Quebec. Of the total anthracite shipments 86.7 percent was destined to the New England and Middle Atlantic States; 3.1 percent to the South Atlantic States; 3.0 percent to the Lake States; 0.5 percent to all other States; and 6.7 percent to the Dominion of Canada.

The charts appearing on Page 5 of this report indicate size group percentages of reported shipments into the primary anthracite market area for the coal years in the period April 1, 1942 to March 31, 1946. Charts on Page 4 show percentages based on grand total shipments and actual tonnage reported shipped of each size group to all destinations for the same coal years. The figures shown on the latter chart indicate that for the years covered there has been a definite decline in the percentage of domestic sizes shipped. Buckwheat No. 1, after an initial decline in the 1943-44 coal year, held fairly constant at around 14.1 percent of total shipments, while Rice size coal, after rising to a peak of 8.7 percent of total shipments in the 1944-45 coal year, has fallen in the 1945-46 coal year to the 8.4 percent attained in the year 1942-43. Sizes of anthracite smaller than Rice, however, have shown a steady gain for the years under study and reached a peak at 17.3 percent of total shipments in the coal year 1945-46.

The chart on Page 6 of the report shows distribution of total reported shipments by method of movement. It should be noted that the 15 percent shown for truck shipments includes "local sales." The 85 percent indicated for rail movement represents that coal shipped from the mine by rail, some part of which was subsequently moved to final destinations by tidewater or lake. These percentage figures on movement are not comparable with similar data presented in the text and charts of the SFD-1, 2, and 3 reports, since calculations for the 1945-46 coal year are based upon total reported shipments, whereas computations in the series of SFD reports were predicated upon the basis of total reported shipments to retail dealers.

From the standpoint of coverage it is interesting to note that for New York 75 percent of the State total is accounted for by the 55 cities listed. The remaining 25 percent being shown under the heading "All Other Cities." New York City alone received approximately 46 percent of rail and tidewater shipments into the state. In Pennsylvania the 25 cities shown in this report cover 69 percent of all shipments, while "All Other Cities" comprise 31 percent of the total. Rail shipments to Philadelphia account for 29 percent of the total rail shipments for the state. In Massachusetts the ratio of coverage is as follows: 35 cities listed in the report, 70 percent; "All Other Cities" 30 percent; with the city of Boston in receipt of 21 percent of total shipments into the state.

Additional copies of this publication may be obtained by writing to the Bureau of Mines, United States Department of the Interior, Washington, 25, D. C. It is suggested that requests for copies be restricted, in order that printing costs may be kept at an absolute minimum.

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DISTRIBUTION OF PENNSYLVANIA ANTHRACITE, APRIL 1, 1945 – MARCH 31, 1946 BY STATES, PROVINCES, AND COUNTRIES OF DESTINATIONS

Destinations	Domestic Sizes						Steam Sizes							Percent of Total
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes	
United States:														
New England States:														
Connecticut	402	74,744	448,030	485,872	69,283	1,078,331	91,493	52,876	43,696	421	13	188,499	1,266,830	2.44
Maine		33,966	141,549	129,794	11,269	316,578	22,443	9,325	106			31,874	348,452	.67
Massachusetts	1,563	394,019	1,047,169	749,926	72,507	2,265,184	157,419	103,285	57,853		6	318,563	2,583,747	4.98
New Hampshire		22,777	96,875	79,785	4,504	203,941	28,358	14,311	77,277	728	631	121,305	325,246	.63
Rhode Island		43,501	141,735	122,378	22,118	329,732	36,426	12,889		21	3	49,339	379,071	.73
Vermont	382	13,889	102,882	80,502	7,811	205,466	39,147	15,705	18,480			73,332	278,798	.54
Total	2,347	582,896	1,978,240	1,648,257	187,492	4,399,232	375,286	208,391	197,412	1,170	653	782,912	5,182,144	9.99
Middle Atlantic States:														
New Jersey	3,424	246,040	1,231,045	2,122,509	645,311	4,248,329	1,005,504	776,745	1,710,717	384,074	101,912	3,978,952	8,227,281	15.86
New York	20,962	1,383,701	3,746,125	3,601,451	1,247,727	9,999,966	3,699,464	1,375,244	913,760	161,693	375,323	6,525,484	16,525,450	31.85
Pennsylvania 1/	84,612	253,683	1,363,285	3,302,594	2,549,431	7,553,605	1,533,680	1,584,733	2,606,156	1,182,157	547,592	7,454,318	15,007,923	28.93
Total	108,998	1,883,424	6,340,455	9,026,554	4,442,469	21,801,900	6,238,648	3,736,722	5,230,633	1,727,924	1,024,827	17,958,754	39,760,654	76.64
South Atlantic States: 2/														
Delaware	534	10,548	80,586	163,270	27,830	282,768	15,750	10,315	11,737	54	13,054	50,910	333,678	.64
District of Columbia	56	18,855	88,052	98,329	23,568	228,860	32,959	2,981	2,449			38,389	267,249	.52
Maryland	1,513	56,861	290,642	285,598	63,141	697,755	112,197	11,781	55,301	3,520	5,901	188,700	886,455	1.71
Virginia		5,790	33,036	47,182	3,106	89,114	30,333	1,237	380		10,331	42,281	131,395	.25
Total	2,103	92,054	492,316	594,379	117,645	1,298,497	191,239	26,314	69,867	3,574	29,286	320,280	1,618,777	3.12
Lake States: 3/														
Illinois		5,269	37,806	156,569	4,565	204,209	1,359	24,766	6,516	28,730	34,658	96,029	300,238	.58
Michigan	189	7,006	77,717	117,132	1,412	203,456	7,008	2,650	3,040	10,079	112,323	135,100	338,556	.65
Minnesota		282	10,746	43,916	4,092	59,036	1,961	464		45,807	87,718	135,950	194,986	.38
Ohio	46	5,459	8,954	76,173	134	90,766	2,636	1,747	2,889	10,766	13,852	31,890	122,656	.24
Wisconsin		2,564	119,984	224,518	42,416	389,482	19,396	2,623		68,486	119,310	209,815	599,297	1.15
Total	235	20,580	255,207	618,308	52,619	946,949	32,360	32,250	12,445	163,868	367,861	608,784	1,555,733	3.00
All Other States:		4,032	18,880	159,714	12,053	194,679	9,513	3,661	14,207	2,415	37,375	67,171	261,850	.50
Total United States	113,683	2,582,986	9,085,098	12,047,212	4,812,278	28,641,257	6,847,046	4,007,338	5,524,564	1,898,951	1,460,002	19,737,901	48,379,158	93.25
Canada:														
Ontario	18,243	310,335	819,726	601,944	74,688	1,824,936	143,294	111,512	12,713	352	1,109	268,980	2,093,916	4.04
Quebec		107,516	310,086	196,944	23,559	638,105	264,855	198,415	54,406	21,887	868	540,431	1,178,536	2.27
Other Provinces	660	14,626	31,069	38,539	3,614	88,508	7,727	5,528			97	13,352	101,860	.20
Unknown Destinations	232	1,259	10,163	10,471	1,304	23,429	37,216	23,158	10,083	157		70,614	94,043	.18
Total Canada 4/	19,135	433,736	1,171,044	847,898	103,165	2,574,978	453,092	338,613	77,202	22,396	2,074	893,377	3,468,355	6.69
Other Countries: 5/				160		160	18,349		6,018	7,991	20	32,378	32,538	.06
Grand Total	132,818	3,016,722	10,256,142	12,895,270	4,915,443	31,216,395	7,318,487	4,345,951	5,607,784	1,929,338	1,462,096	20,663,656	51,880,051	100.00

1/ Includes "Local Sales."

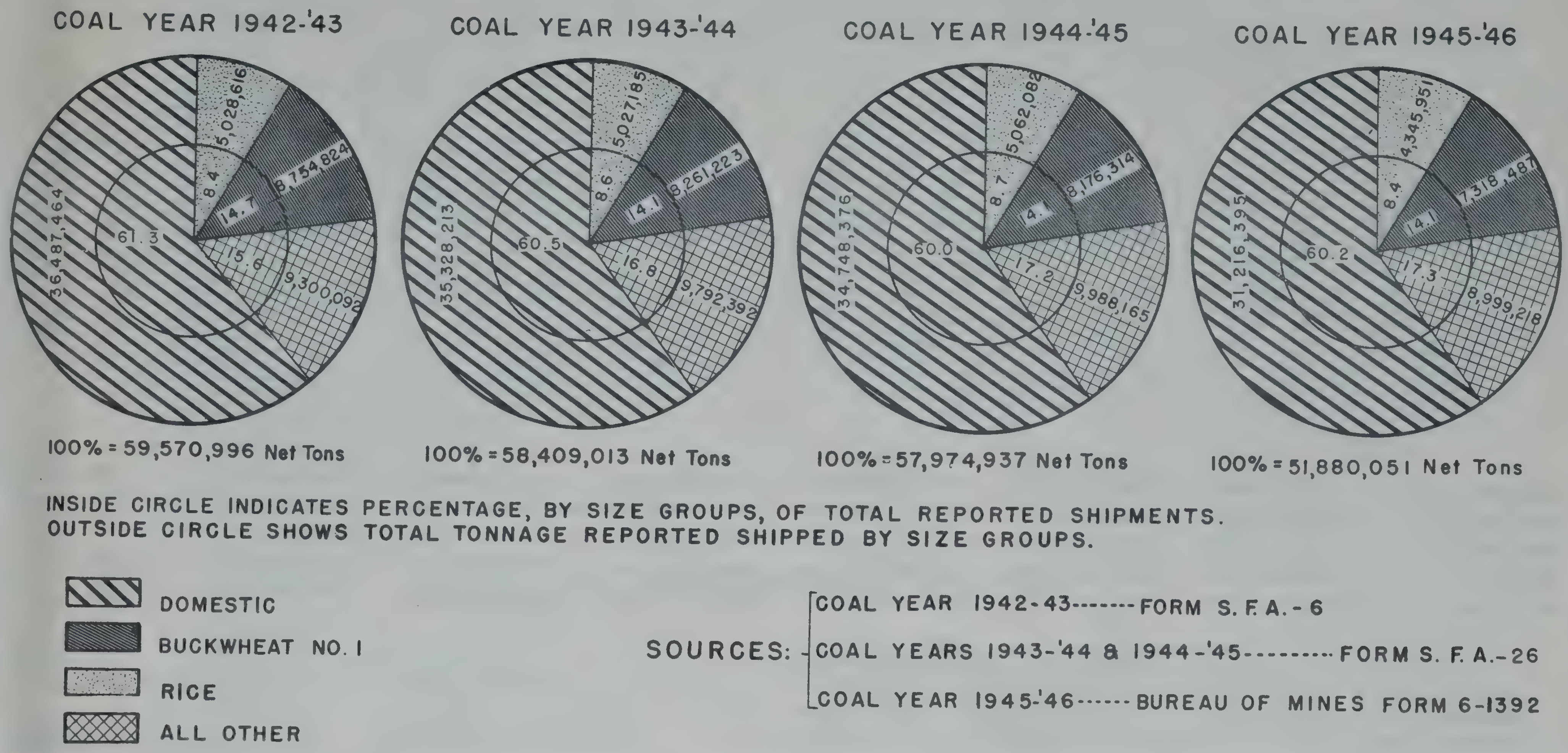
2/ Total shipments to other states generally referred to as being in the South Atlantic area are included in "All Other States."

3/ Shipments to Indiana are included in "All Other States."

4/ Reported shipments by American producers and wholesalers to final Canadian destinations, as well as to Canadian wholesalers were as shown --- 3,468,355 net tons. The total shown for "Unknown Destinations," 94,043 net tons, represents tonnage on which final Canadian destinations were not supplied by Canadian wholesalers. Official data of the United States Department of Commerce shows total exports to Canada of 3,529,043 net tons during the 1945-46 coal year.

5/ Coverage on anthracite shipments to foreign countries, other than Canada, is not complete. It is hoped that in future reports distribution data on exports of Pennsylvania anthracite will more nearly approximate total exports.

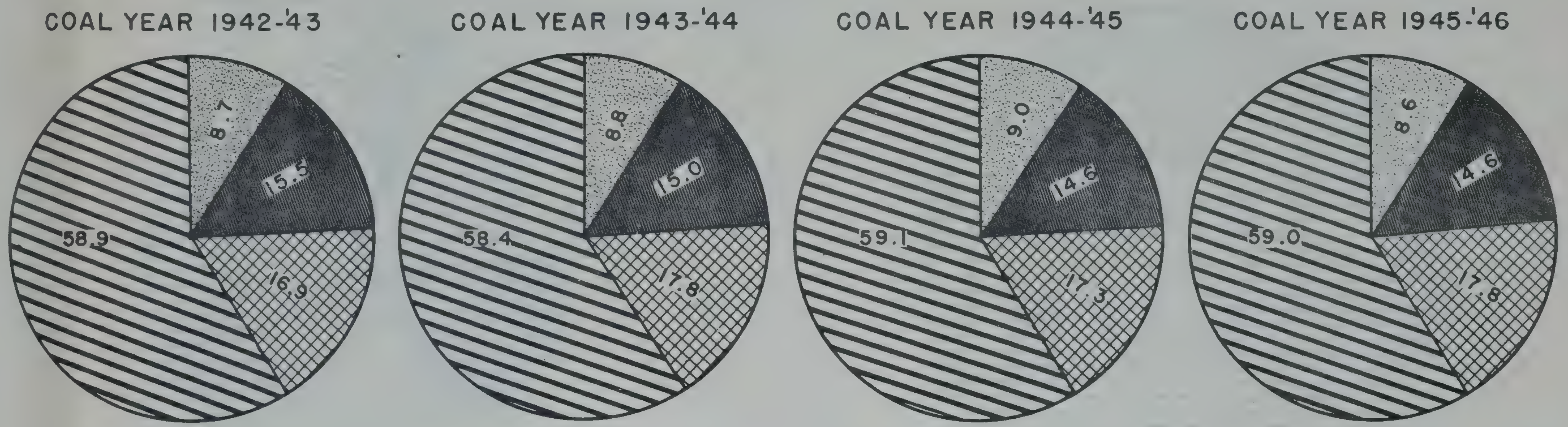
PERCENTAGE DISTRIBUTION OF TOTAL PENNSYLVANIA ANTHRACITE SHIPMENTS BY SIZE GROUPS, FOR THE COAL YEARS IN THE PERIOD, APRIL 1, 1942 TO MARCH 31, 1946.



INSIDE CIRCLE INDICATES PERCENTAGE, BY SIZE GROUPS, OF TOTAL REPORTED SHIPMENTS.
OUTSIDE CIRCLE SHOWS TOTAL TONNAGE REPORTED SHIPPED BY SIZE GROUPS.

SOURCES:
- COAL YEAR 1942-43 ------- FORM S. F. A. - 6
- COAL YEARS 1943-'44 & 1944-'45 --------- FORM S. F. A.-26
- COAL YEAR 1945-'46 ------ BUREAU OF MINES FORM 6-1392

PERCENTAGE DISTRIBUTION OF PENNSYLVANIA ANTHRACITE IN THE PRIMARY MARKET AREA [1/] BY SIZE GROUPS, FOR THE COAL YEARS IN THE PERIOD, APRIL 1, 1942 TO MARCH 31, 1946.

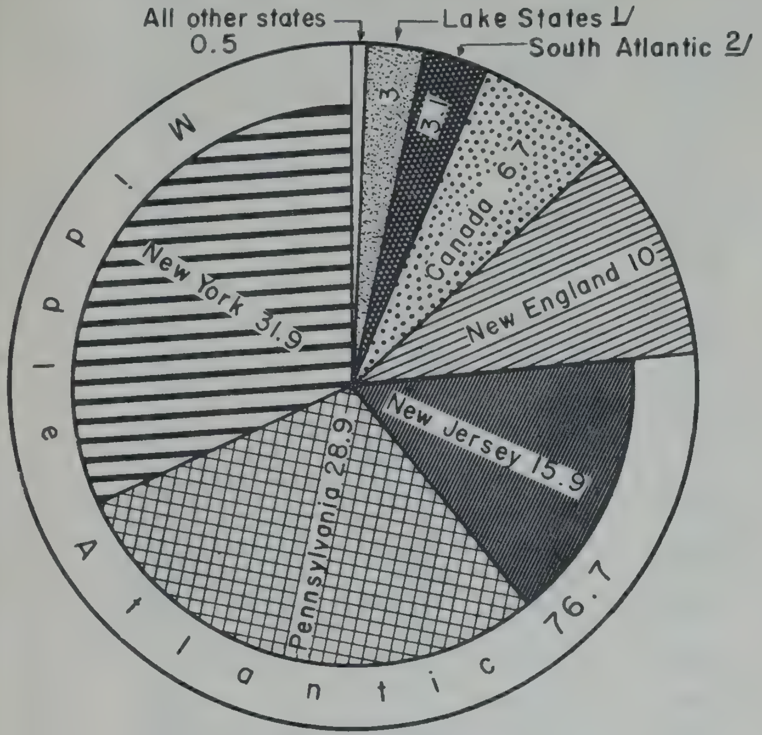


	1942-'43	1943-'44	1944-'45	1945-'46
DOMESTIC	31,167,499	30,430,451	30,548,894	27,410,515
BUCKWHEAT NO. 1	8,212,137	7,797,476	7,574,686	6,774,840
RICE	4,596,871	4,605,707	4,641,399	3,970,190
ALL OTHER	8,932,101	9,291,488	8,966,266	8,274,635
100 PERCENT	52,908,608	52,125,122	51,731,245	46,430,180

▧ DOMESTIC
▨ RICE
■ BUCKWHEAT NO. 1
▦ ALL OTHER

[1/] COMPOSED OF THE FOLLOWING:
CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW YORK, NEW JERSEY, PENNSYLVANIA, RHODE ISLAND AND VERMONT.

PERCENTAGE DISTRIBUTION OF PENNSYLVANIA ANTHRACITE SHIPMENTS BY DESTINATIONS, COAL YEAR 1945-46

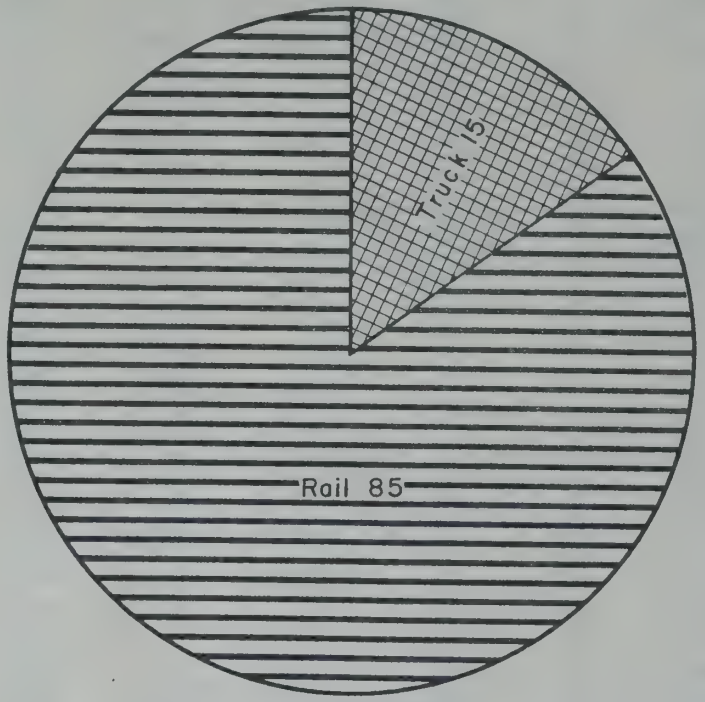


100% = 51,880,051 Tons

1/ Includes Illinois, Michigan, Minnesota, Ohio and Wisconsin.

2/ Includes only Delaware, District of Columbia, Maryland and Virginia.

PERCENTAGE DISTRIBUTION OF PENNSYLVANIA ANTHRACITE SHIPMENTS BY METHOD OF MOVEMENT COAL YEAR 1945-46



100% = 51,880,051 Tons

Rail- Includes all shipments from the mine by rail, some of which subsequently moved by lake and tide.

Truck- Includes "local sales".

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
Connecticut:													
Ansonia		724	5,140	6,319	485	12,668	438	1,122				1,560	14,228
Bridgeport		6,502	54,658	46,227	6,268	113,655	6,960	1,350	1,480			9,790	123,445
Bristol	192	860	6,324	6,320	377	14,073	284	184				468	14,541
Danbury		1,522	6,894	7,351	1,152	16,919	633	1,695	233			2,561	19,480
East Hartford		633	4,960	3,471	555	9,619	621	42				663	10,282
Greenwich		2,267	7,415	7,397	872	17,951	4,219	955		52		5,226	23,177
Hartford		12,141	58,036	49,358	8,442	127,977	12,651	10,570	2,818	369		26,408	154,385
Manchester		1,264	7,692	7,273	1,157	17,386	713	838				1,551	18,937
Meriden		2,218	12,377	10,981	842	26,418	1,824	301				2,125	28,543
Middletown		1,277	5,175	6,023	1,585	14,060	1,103	1,929				3,032	17,092
Naugatuck		921	3,023	3,572	318	7,834	489	382				871	8,705
New Britain	57	2,305	15,900	18,820	2,861	39,943	3,366	1,240				4,606	44,549
New Haven	104	9,375	48,613	45,486	4,524	108,102	7,377	2,010	4,460			13,847	121,949
New London		1,779	11,365	17,826	3,108	34,078	2,451	2,398				4,849	38,927
Norwalk		1,942	15,286	13,936	1,827	32,991	848	815	60			1,723	34,714
Norwich		496	10,827	17,516	1,632	30,471	4,460	270				4,730	35,201
Stamford		1,293	10,790	18,449	4,602	35,134	4,969	2,321	23,855			31,145	66,279
Torrington		133	5,260	8,622	1,006	15,021	488	591				1,079	16,100
Wallingford		274	3,201	4,981	544	9,000	1,940	109				2,049	11,049
Waterbury		4,539	23,338	24,341	3,564	55,782	1,652	1,815	1,164			4,631	60,413
Willimantic		824	4,666	6,346	674	12,510	1,176	445				1,621	14,131

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
Connecticut, Cont'd. All Other Cities	49	21,455	127,090	155,257	22,888	326,739	32,831	21,494	9,626		13	63,964	390,703
State Total 1/	402	74,744	448,030	485,872	69,283	1,078,331	91,493	52,876	43,696	421	13	188,499	1,266,830
Maine:													
Augusta		771	1,727	1,357	375	4,230	757					757	4,987
Bangor		2,705	6,583	5,351	555	15,194	1,640	206	53			1,899	17,093
Bath		1,039	3,290	3,673	437	8,439	388	88				476	8,915
Biddeford		541	2,471	1,674	67	4,753	576	189				765	5,518
Brunswick		648	3,786	4,513	254	9,201	329	95				424	9,625
Lewiston		359	4,024	2,722		7,105	514	328				842	7,947
Portland		11,593	40,853	39,280	5,231	96,957	4,092	4,309				8,401	105,358
Rockland		446	5,214	6,685	241	12,586	891	47				938	13,524
All Other Cities		15,864	73,601	64,539	4,109	158,113	13,256	4,063	53			17,372	175,485
State Total		33,966	141,549	129,794	11,269	316,578	22,443	9,325	106			31,874	348,452
Massachusetts:													
Beverly		2,209	5,621	3,862	353	12,045	680	1,231				1,911	13,956
Boston		116,944	245,353	141,690	11,722	515,709	10,728	5,654	1,187			17,569	533,278
Brockton		4,686	7,681	4,420	408	17,195	308	379				687	17,882
Cambridge		18,811	33,125	25,959	3,367	81,262	2,131	622	9,284			12,037	93,299
Chelsea		4,127	11,921	13,109	1,226	30,383	663					663	31,046
Chicopee		2,152	7,515	6,681	499	16,847	2,368	1,712				4,080	20,927
Everett		2,423	3,883	4,423	55	10,784	73					73	10,857

1/ Includes 1,292 tons of coal shipped from the mine by over-the-road truck to final destinations, which was reported in such manner that it was impracticable to remove it from data on rail shipments. This tonnage is broken down by size as follows: 609 tons of Stove, 402 tons of Chestnut, 127 tons of Pea, 46 tons of Buckwheat No. 1, and 108 tons of Rice coal. Other truck shipments into Connecticut are included in the total for "All Other States."

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
Massachusetts: Cont'd.													
Fall River	51	5,876	8,665	5,792	161	20,545	1,720	952				2,672	23,217
Fitchburg		2,210	7,516	5,627	654	16,007	972	266				1,238	17,245
Gloucester		2,621	6,772	6,170	596	16,159	680	2,969				3,649	19,808
Haverhill		5,150	12,154	8,695	342	26,341	415					415	26,756
Holyoke		1,785	9,558	10,045	1,247	22,635	10,954	2,508	11,082			24,544	47,179
Lawrence		5,650	21,707	13,950	273	41,580	1,532	1,992				3,524	45,104
Leominster		2,305	4,410	3,274	457	10,446	967	264				1,231	11,677
Lowell	53	6,275	20,355	15,543	636	42,862	3,903	9,529	127			13,559	56,421
Lynn		11,821	30,232	17,551	720	60,324	1,544	520				2,064	62,388
Malden		2,690	8,531	2,848	101	14,170	74	417				491	14,661
Medford		2,201	12,670	6,197	302	21,370	75					75	21,445
Melrose		1,985	4,934	3,121	411	10,451	152	381				533	10,984
New Bedford		12,345	29,032	17,163	1,113	59,653	932	895				1,827	61,480
Newburyport		2,985	6,733	5,581	665	15,964	1,059	1,653				2,712	18,676
Newton		5,884	10,559	6,158	746	23,347	1,083	697				1,780	25,127
Northampton		2,440	8,096	6,183	1,152	17,871	8,231	2,331	149			10,711	28,582
North Adams		1,207	8,137	9,661	818	19,823	3,213	2,598				5,811	25,634
Pittsfield		4,943	14,272	20,212	6,953	46,380	16,577	14,364				30,941	77,321
Quincy		10,325	24,731	10,635	534	46,225	420	871				1,291	47,516
Revere		3,200	5,621	3,185	171	12,177	49					49	12,226
Salem		7,315	27,382	13,221	200	48,118	1,083	140				1,223	49,341

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
Massachusetts: Cont'd. Somerville		14,418	23,814	12,274	2,256	52,762	1,102					1,102	53,864
Springfield		9,411	53,454	42,275	7,420	112,560	8,916	5,300	9,269			23,485	136,045
Taunton		5,265	5,278	2,991	428	13,962	494	1,020				1,514	15,476
Waltham		4,033	11,988	7,232	964	24,217	1,473	2,218				3,691	27,908
Westfield		328	6,382	7,993	919	15,622	1,188	572				1,760	17,382
Woburn		2,340	9,639	4,481	161	16,621		95				95	16,716
Worcester	1,401	11,918	44,369	28,900	2,895	89,483	4,824	11,907	14,466			31,197	120,680
All Other Cities	58	93,741	295,079	252,824	21,582	663,284	66,836	29,228	12,289		6	108,359	771,643
State Total	1,563	394,019	1,047,169	749,926	72,507	2,265,184	157,419	103,285	57,853		6	318,563	2,583,747
New Hampshire: Berlin			2,498	2,780	552	5,830	1,557	874	48,275			50,706	56,536
Concord		3,612	10,184	5,067	482	19,345	874	3,655	100			4,629	23,974
Dover		703	2,575	2,658		5,936	174	407				581	6,517
Keene		1,199	4,947	3,105	456	9,707	2,660	358				3,018	12,725
Manchester		4,005	12,242	10,698	1,185	28,130	3,552	751	811	728		5,842	33,972
Nashua		2,087	4,100	3,290	387	9,864	907	49				956	10,820
Portsmouth		2,718	6,659	6,566	438	16,381	3,189	872				4,061	20,442
All Other Cities		8,453	53,670	45,621	1,004	108,748	15,445	7,345	28,091		631	51,512	160,260
State Total		22,777	96,875	79,785	4,504	203,941	28,358	14,311	77,277	728	631	121,305	325,246

NEW ENGLAND CONT'D.

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
Rhode Island:													
Cranston		6,626	15,472	12,003	1,448	35,549	2,639	954				3,593	39,142
Newport		4,036	12,543	14,055	2,860	33,494	7,696	1,370				9,066	42,560
Pawtucket		2,545	8,309	9,256	601	20,711	739	492				1,231	21,942
Providence		14,701	52,342	37,855	6,683	111,581	5,673	7,669		21		13,363	124,944
Westerly		1,760	4,735	5,128	592	12,215	1,309	87				1,396	13,611
Woonsocket		1,254	3,065	3,025	538	7,882	166	272				438	8,320
All Other Cities		12,579	45,269	41,056	9,396	108,300	18,204	2,045			3	20,252	128,552
State Total		43,501	141,735	122,378	22,118	329,732	36,426	12,889		21	3	49,339	379,071
Vermont:													
Barre		619	4,508	4,629	384	10,140	1,541	3,120				4,661	14,801
Bennington		1,453	3,727	3,054	863	9,097	2,386	1,627	54			4,067	13,164
Brattleboro		1,313	3,303	3,384	344	8,344	1,067	5,043				6,110	14,454
Burlington		2,575	15,267	8,181	1,366	27,389	9,507	895	51			10,453	37,842
Rutland	126	1,181	12,189	10,318	888	24,702	2,919	416	349			3,684	28,386
All Other Cities	256	6,748	63,888	50,936	3,966	125,794	21,727	4,604	18,026			44,357	170,151
State Total	382	13,889	102,882	80,502	7,811	205,466	39,147	15,705	18,480			73,332	278,798

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
New Jersey:													
Asbury Park		587	5,898	6,939	2,424	15,848	3,129	1,815	150			5,094	20,942
Atlantic City		3,801	19,381	34,655	13,950	71,787	43,659	37,069	66,241		59	147,028	218,815
Bayonne		2,546	8,680	15,386	5,261	31,873	6,653	3,040	5,754			15,447	47,320
Belleville		365	9,112	14,549	5,319	29,345	2,463	673	48			3,184	32,529
Bergenfield		311	4,132	6,926	2,218	13,587	1,415	1,419				2,834	16,421
Bloomfield		2,181	15,589	24,248	7,638	49,656	16,720	12,170				28,890	78,546
Bridgeton		859	6,780	12,493	3,347	23,479	3,843	4,732				8,575	32,054
Burlington		840	3,851	5,693	1,967	12,351	1,280	538				1,818	14,169
Camden		4,391	21,855	29,963	10,142	66,351	8,839	1,726	12,903	193		23,661	90,012
Carteret			3,057	7,470	1,862	12,389	1,342	777	5,403			7,522	19,911
Clifton		1,268	5,904	8,872	3,029	19,073	4,093	7,093	59,079			70,265	89,338
Collingswood		894	10,072	12,655	3,418	27,039	1,906	117				2,023	29,062
Dover		7,304	7,488	10,838	3,153	28,783	3,151	2,500	1,364			7,015	35,798
East Orange		5,100	18,991	28,017	7,524	59,632	10,382	5,367	47			15,796	75,428
Elizabeth		10,634	34,044	69,285	15,204	129,167	13,701	5,981	74,237		553	94,472	223,639
Englewood		3,326	10,804	13,641	5,025	32,796	14,388	5,010				19,398	52,194
Garfield		1,465	10,181	11,614	4,560	27,820	3,818	2,343	30,176			36,337	64,157
Gloucester		2,122	4,825	4,678	1,152	12,777	446					446	13,223
Hackensack		706	11,646	17,028	7,379	36,759	6,917	6,647				13,564	50,323
Harrison		2,147	18,074	29,673	6,421	56,315	7,898	3,428	31,391	2,614		45,331	101,646
Hawthorne		585	4,548	5,136	2,061	12,330	1,296	9,919				11,215	23,545

MIDDLE ATLANTIC CONT'D.

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
New Jersey: Cont'd. Hoboken		25,625	29,247	26,806	14,907	96,585	76,702	57,449	9,377		101	143,629	240,214
Irvington		14,368	29,017	58,214	10,802	112,401	15,040	10,870	333			26,243	138,644
Jersey City		17,457	66,307	100,100	61,698	245,562	137,474	102,604	167,731	6,562	2,523	416,894	662,456
Kearny		105	2,962	9,227	3,329	15,623	2,398	20,014	26,249	6,408		55,069	70,692
Linden		324	2,559	7,408	2,516	12,807	1,440	2,069	54			3,563	16,370
Long Branch		963	6,264	13,398	3,627	24,252	3,074	572		74		3,720	27,972
Millville		688	3,648	8,248	1,224	13,808	589					589	14,397
Montclair		2,837	9,781	12,051	3,480	28,149	6,847	9,408				16,255	44,404
Morristown		2,090	11,716	17,311	4,251	35,368	6,919	6,494				13,413	48,781
Newark		19,044	84,321	141,038	42,005	286,408	69,804	68,173	38,573	24,118	222	200,890	487,298
New Brunswick		2,003	9,410	20,712	5,894	38,019	5,894	7,296	2,198			15,388	53,407
North Bergen		3,890	11,097	23,316	7,117	45,420	14,982	1,705	752			17,439	62,859
Nutley		48	2,685	4,431	1,084	8,248	2,437	2,387				4,824	13,072
Orange		3,096	17,249	33,744	8,532	62,621	15,948	8,178				24,126	86,747
Passaic		1,468	8,837	14,635	3,679	28,619	4,208	7,069	56,626			67,903	96,522
Paterson		5,851	54,836	89,613	17,385	167,685	27,063	30,357	15,700			73,120	240,805
Perth Amboy	246	2,313	15,529	29,131	12,692	59,911	11,860	5,982	17,494			35,336	95,247
Phillipsburg	1,657	584	5,282	12,393	4,505	24,421	4,718	9,796	35,208	29,885		79,607	104,028
Plainfield		2,376	10,188	22,801	7,722	43,087	10,286	7,450	9,277			27,013	70,100
Pleasantville		1,009	6,282	9,310	4,188	20,789	2,387	877	467			3,731	24,520
Rahway		1,464	7,673	10,226	3,917	23,280	947	1,045	298			2,290	25,570

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
New Jersey: Cont'd.													
Red Bank		1,419	8,376	11,541	2,962	24,298	3,408	424				3,832	28,130
Ridgefield Park		1,255	6,907	7,259	3,602	19,023	3,211	2,708	219			6,138	25,161
Rutherford		883	6,471	7,193	2,860	17,407	6,735	1,067	56			7,858	25,265
South Orange		961	8,672	19,603	2,805	32,041	7,950	3,221				11,171	43,212
South River			1,114	6,271	1,158	8,543	1,089	101		10,256		11,446	19,989
Summit		801	4,978	7,719	2,451	15,949	6,704	9,160	1,372			17,236	33,185
Trenton		4,305	39,167	83,478	26,643	153,593	12,764	23,888	43,568	21,455	9,082	110,757	264,350
Vineland		99	6,176	16,728	2,737	25,740	1,923	171	1,172			3,266	29,006
Westfield		890	3,238	4,264	2,330	10,722	4,247	4,781			63	9,091	19,813
West Orange		1,777	5,035	5,094	1,437	13,343	1,484	459				1,943	15,286
Woodbury		294	3,127	3,704	1,471	8,596	620	686				1,306	9,902
All Other Cities	1,521	52,456	334,677	614,135	191,979	1,194,768	327,268	233,216	993,792	282,509	89,309	1,926,094	3,120,862
Total Rail Shipments[1]	3,424	224,175	1,057,740	1,820,861	580,043	3,686,243	955,759	752,041	1,707,309	384,074	101,912	3,901,095	7,587,338
Total Truck Shipments[2]		21,865	173,305	301,648	65,268	562,086	49,745	24,704	3,408			77,857	639,943
State Total	3,424	246,040	1,231,045	2,122,509	645,311	4,248,329	1,005,504	776,745	1,710,717	384,074	101,912	3,978,952	8,227,281
New York:													
Albany	230	7,924	77,852	69,174	12,534	167,714	55,303	15,899	4,538			75,740	243,454
Amsterdam		1,853	9,935	17,828	4,607	34,223	4,314	2,262				6,576	40,799
Auburn		5,343	14,723	11,756	3,934	35,756	5,631	7,265	292			13,188	48,944
Batavia		3,222	7,536	5,522	1,377	17,657	2,389	1,605				3,994	21,651
Binghamton	5,377	11,375	27,027	23,435	10,645	77,859	34,359	28,751	15,795			78,905	156,764

[1] Includes 16,392 tons of coal shipped from the mine by over-the-road truck to final destinations, which was reported in such manner that it was impracticable to remove it from data on rail shipments. This tonnage is broken down by size as follows: 539 tons of Egg, 4,989 tons of Stove, 6,723 tons of Chestnut, 2,922 tons of Pea, 757 tons of Buckwheat No. 1, and 462 tons of Rice coal.

[2] To obtain actual truck shipments for New Jersey add the 16,392 tons indicated in footnote 1/to this total, or see Page 25 of this report.

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
New York: Cont'd. Buffalo		85,265	252,789	158,351	24,997	521,402	50,068	14,170	2,314	3,596	61,684	131,832	653,234
Cohoes		1,311	6,863	9,600	953	18,727	1,809	94				1,903	20,630
Cortland		1,972	5,319	4,808	2,388	14,487	3,857	3,669				7,526	22,013
Elmira		8,000	29,193	20,554	6,469	64,216	11,023	9,104	770			20,897	85,113
Endicott		566	4,343	5,896	3,222	14,027	3,745	4,969				8,714	22,741
Freeport		1,044	8,928	10,346	1,982	22,300	1,597	1,313				2,910	25,210
Fulton		2,546	6,255	4,533	1,834	15,168	2,085	1,637				3,722	18,890
Geneva		2,992	11,418	10,457	3,604	28,471	5,233	6,211	592			12,036	40,507
Glens Falls		953	12,467	13,084	3,087	29,591	6,771	8,563	57,841	137		73,312	102,903
Gloversville	141	2,597	9,962	8,255	2,714	23,669	2,644	927	2,233			5,804	29,473
Hempstead		1,636	6,206	5,931	1,481	15,254	4,523	2,222				6,745	21,999
Hudson	338	598	4,810	6,321	479	12,546	4,669	4,340				9,009	21,555
Huntington		2,190	8,274	10,496	2,789	23,749	2,042	644				2,686	26,435
Ithaca		4,162	12,693	12,209	5,528	34,592	13,241	6,259	37,652			57,152	91,744
Jamestown		2,560	11,236	7,331	1,590	22,717	1,013	1,154				2,167	24,884
Johnson City		205	2,239	2,091	1,089	5,624	2,575	1,283				3,858	9,482
Kingston		2,793	12,046	11,840	4,107	30,786	3,689	3,978	91	452	599	8,809	39,595
Little Falls		1,236	3,872	4,306	731	10,145	1,149	498				1,647	11,792
Lockport		4,169	11,991	8,832	1,914	26,906	1,683	732				2,415	29,321
Massena		1,241	5,418	4,395	831	11,885	1,228	582	54			1,864	13,749
Middletown		1,768	10,109	9,872	2,669	24,418	4,273	4,914	302	18,150		27,639	52,057

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DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
New York: Cont'd.													
Mineola		2,246	12,532	14,093	4,204	33,075	9,986	1,092				11,078	44,153
Mount Vernon		7,015	22,951	17,407	6,287	53,660	34,690	7,558	338	1,954	121	44,661	98,321
Newburgh		1,764	12,744	13,779	12,565	40,852	4,688	2,825	359			7,872	48,724
New Hyde Park		1,002	12,915	23,977	6,228	44,122	3,894	2,495				6,389	50,511
New Rochelle		1,927	9,257	8,727	3,184	23,095	5,026	2,175	110			7,311	30,406
New York	11,589	752,326	1,189,936	1,140,117	540,943	3,634,911	2,563,178	751,942	286,508	27,840	25,830	3,655,298	7,290,209
Niagara Falls		9,965	33,499	23,181	8,498	75,143	8,401	12,489	57,447	912	98	79,347	154,490
North Tonawanda		961	10,284	14,088	3,438	28,771	1,471	1,636				3,107	31,878
Oneida		3,115	8,082	5,095	2,510	18,802	3,153	1,521				4,674	23,476
Oneonta		2,035	9,991	11,604	2,291	25,921	8,486	6,962	2,103			17,551	43,472
Oswego		5,728	14,185	10,629	4,898	35,440	8,385	4,626	140			13,151	48,591
Peekskill		359	8,830	10,140	1,667	20,996	2,500	1,666				4,166	25,162
Plattsburg		562	5,888	7,549	1,365	15,364	8,501	2,217	91			10,809	26,173
Port Chester		2,681	9,816	10,255	3,970	26,722	2,835	623				3,458	30,180
Port Jervis		300	6,929	10,646	2,298	20,173	1,714	3,783				5,497	25,670
Poughkeepsie		3,348	25,957	22,116	6,057	57,478	9,914	13,134				23,048	80,526
Rochester	528	62,472	177,971	107,271	41,975	390,217	30,399	27,762	432		75	58,668	448,885
Rome		7,885	19,663	14,081	8,781	50,410	8,804	2,956	50			11,810	62,220
Saratoga Springs		1,049	7,975	9,698	2,933	21,655	8,584	5,978				14,562	36,217
Schenectady		4,454	52,987	81,762	25,394	164,597	31,013	12,402				43,415	208,012
Syracuse	203	58,222	128,732	71,728	36,472	295,357	64,377	45,494	5,192		11	115,074	410,431

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
New York: Cont'd.													
Tarrytown		1,791	9,431	9,143	1,772	22,137	2,154	1,340				3,494	25,631
Tonawanda		3,378	12,565	6,054	2,177	24,174	2,055	2,150	194			4,399	28,573
Troy		11,173	31,857	37,678	9,027	89,735	14,569	11,504	15,188			41,261	130,996
Utica		8,910	34,117	24,630	7,182	74,839	24,169	11,795	3,503			39,467	114,306
Watertown		6,645	16,247	12,333	4,187	39,412	8,461	4,408	54			12,923	52,335
Watervliet		1,156	6,645	9,006	1,568	18,375	839	341	1,460			2,640	21,015
White Plains		3,253	15,207	12,106	3,822	34,388	7,565	1,453				9,018	43,406
Yonkers		13,528	37,161	34,119	9,804	94,612	22,593	2,877	47			25,517	120,129
All Other Cities	2,556	230,159	977,720	1,049,453	310,948	2,570,836	503,353	272,958	417,999	108,652	286,905	1,589,867	4,160,703
Total Rail Shipments 1/	20,962	1,368,930	3,495,578	3,279,688	1,184,000	9,349,158	3,636,670	1,353,207	913,689	161,693	375,323	6,440,582	15,789,740
Total Truck Shipments 2/		14,771	250,547	321,763	63,727	650,808	62,794	22,037	71			84,902	735,710
State Total	20,962	1,383,701	3,746,125	3,601,451	1,247,727	9,999,966	3,699,464	1,375,244	913,760	161,693	375,323	6,525,484	16,525,450
Pennsylvania:													
Allentown		370	7,389	38,559	43,961	90,279	26,744	22,664	35,448	88,849		173,705	263,984
Ardmore		2,058	6,178	6,515	2,726	17,477	5,588	1,153				6,741	24,218
Bethlehem		1,562	10,638	32,078	25,317	69,595	17,546	18,722	252,098	1,562	6,124	296,052	365,647
Bristol		214	3,002	7,154	1,795	12,165	744			20,494	1,848	23,086	35,251
Carlisle	1,586	791	2,515	2,725	1,174	8,791	1,999	1,597	523	261		4,380	13,171
Chester	163	2,104	15,255	26,700	7,793	52,015	3,509	3,099	2,146	1,567		10,321	62,336
Coatesville		557	4,139	6,300	1,946	12,942	2,385	1,621				4,006	16,948
Columbia	1,194	1,088	1,778	3,263	1,710	9,033	1,783	4,489	290			6,562	15,595

1/ Includes 6,012 tons of coal shipped from the mine by over-the-road truck to final destinations, which was reported in such manner that it was impracticable to remove it from data on rail shipments. This tonnage is broken down by size as follows: 105 tons of Egg, 1,247 tons of Stove, 1,757 tons of Chestnut, 311 tons of Pea, 2,054 tons of Buckwheat No. 1, and 538 tons of Rice coal.

2/ To obtain actual truck shipments for New York add the 6,012 tons indicated in footnote 1/ to this total, or see Page 25 of this report.

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
Pennsylvania: Cont'd.													
Easton		13,672	11,559	22,942	11,654	59,827	14,399	26,422	4,409			45,230	105,057
Erie		24,637	31,498	13,714	747	70,596	1,777	2,453	340			4,570	75,166
Hanover		758	2,556	4,011	1,079	8,404	1,186	718				1,904	10,308
Harrisburg		2,124	11,461	14,185	9,020	36,790	7,975	7,440	4,787	34,291		54,493	91,283
Lancaster	9,411	5,180	11,765	16,553	10,811	53,720	10,779	8,455	88,214			107,448	161,168
Lebanon		1,013	3,058	4,782	3,692	12,545	6,215	2,405	28,391	15,125	11,363	63,499	76,044
Lewistown		169	755	1,416	400	2,740	383				12,245	12,628	15,368
Norristown	55	390	5,644	11,950	7,248	25,287	6,917	1,105	10,544			18,566	43,853
Philadelphia	564	91,420	414,027	824,590	306,664	1,637,265	302,206	305,211	384,089	60,652	12,867	1,065,025	2,702,290
Phoenixville	1,699	427	2,264	4,257	2,896	11,543	7,608	8,158				15,766	27,309
Pottstown		430	2,310	5,821	5,720	14,281	2,906	3,080				5,986	20,267
Reading		2,273	20,137	31,815	24,230	78,455	24,225	49,524	38,807	647		113,203	191,658
Steelton		251	406	555	177	1,389	1,279	591	260	21,227		23,357	24,746
Sunbury	3,470	74	1,141	1,323	1,206	7,214	1,559	202				1,761	8,975
West Chester		745	4,427	6,766	2,679	14,617	3,387	658	755			4,800	19,417
Williamsport	10,158	1,382	6,061	3,919	1,805	23,325	6,381	580	23,607	32,166		62,754	86,079
York	11,581	2,494	19,095	25,021	9,765	67,956	9,638	10,135	180			19,953	87,909
All Other Cities	16,794	54,868	247,357	554,080	358,342	1,231,441	298,899	597,896	1,235,338	843,393	417,568	3,393,094	4,624,535
Total Rail Shipments [1]	56,675	211,051	846,415	1,670,994	844,557	3,629,692	768,017	1,078,378	2,110,226	1,120,254	462,015	5,538,890	9,168,582
Total Truck Shipments [2]	27,937	42,632	516,870	1,631,600	1,704,874	3,923,913	765,663	506,355	495,930	61,903	85,577	1,915,428	5,839,341
State Total	84,612	253,683	1,363,285	3,302,594	2,549,431	7,553,605	1,533,680	1,584,733	2,606,156	1,182,157	547,592	7,454,318	15,007,923

[1] Includes 398,966 tons of coal shipped from the mine by over-the-road truck to final destinations, which was reported in such manner that it was impracticable to remove it from data on rail shipments. This tonnage is broken down by size as follows: 66 tons of Broken, 1,788 tons of Egg, 17,888 tons of Stove, 119,154 tons of Chestnut, 122,894 tons of Pea, 59,524 tons of Buckwheat No. 1, 52,601 tons of Rice, and 25,051 tons of Barley coal.

[2] Includes Local Sales. To obtain actual truck shipments for Pennsylvania add the 398,966 tons indicated in footnote 1/ to this total, or see Page 25 of this report.

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
Delaware:													
Dover		784	1,671	13,290	458	16,203	2,296		48			2,344	18,547
Milford		357	1,348	1,675	693	4,073	365					365	4,438
Wilmington	325	4,967	36,825	48,386	12,929	103,432	5,072	9,200	10,681	54		25,007	128,439
All Other Cities	209	3,263	24,730	76,629	8,909	113,740	6,624	938	1,008		13,054	21,624	135,364
Total Rail Shipments 1/	534	9,371	64,574	139,980	22,989	237,448	14,357	10,138	11,737	54	13,054	49,340	286,788
Total Truck Shipments 2/		1,177	16,012	23,290	4,841	45,320	1,393	177				1,570	46,890
State Total	534	10,548	80,586	163,270	27,830	282,768	15,750	10,315	11,737	54	13,054	50,910	333,678
District of Columbia:	56	18,855	88,052	98,329	23,568	228,860	32,959	2,981	2,449			38,389	267,249
Maryland:													
Annapolis		1,162	5,355	4,015	725	11,257	599		46			645	11,902
Baltimore	1,460	37,461	130,116	100,376	27,515	296,928	45,039	4,894	31,361	3,520		84,814	381,742
Salisbury		2,717	4,045	7,236	399	14,397	716	643	92		915	2,366	16,763
All Other Cities	53	12,746	98,161	126,597	21,157	258,714	61,925	5,489	23,786		4,986	96,186	354,900
Total Rail Shipments 3/	1,513	54,086	237,677	238,224	49,796	581,296	108,279	11,026	55,285	3,520	5,901	184,011	765,307
Total Truck Shipments 4/		2,775	52,965	47,374	13,345	116,459	3,918	755	16			4,689	121,148
State Total	1,513	56,861	290,642	285,598	63,141	697,755	112,197	11,781	55,301	3,520	5,901	188,700	886,455
Virginia:													
Alexandria		1,152	6,141	5,038	1,006	13,337	5,220	156	114			5,490	18,827
Norfolk		311	3,324	2,071		5,706	48					48	5,754
Richmond		335	2,765	5,058	49	8,207		60				60	8,267

1/ Includes 195 tons of Pea coal shipped from the mine by over-the-road truck to final destinations, which was reported in such manner that it was impracticable t remove it from data on rail shipments.

2/ To obtain actual truck shipments for Delaware add the 195 tons indicated in footnote 1/ to this total, or see Page 25 of this report.

3/ Includes 12 tons of Pea coal shipped from the mine by over-the-road truck to final destinations, which was reported in such manner that it was impracticable to remove it from data on rail shipments.

4/ To obtain actual truck shipments for Maryland add the 12 tons indicated in footnote 3/ to this total, or see Page 25 of this report.

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
Virginia: Cont'd. All Other Cities		3,992	20,806	35,015	2,051	61,864	25,065	1,021	266		10,331	36,683	98,547
State Total		5,790	33,036	47,182	3,106	89,114	30,333	1,237	380		10,331	42,281	131,395

LAKE STATES

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
Illinois: Chicago		2,916	24,827	106,700	2,811	137,254	790	386	389	24,845	449	26,859	164,113
All Other Cities		2,353	12,979	49,869	1,754	66,955	569	24,380	6,127	3,885	34,209	69,170	136,125
State Total		5,269	37,806	156,569	4,565	204,209	1,359	24,766	6,516	28,730	34,658	96,029	300,238
Michigan: Detroit	189	4,118	50,869	51,568	614	107,358	894	579	2,984	9,845	72,620	86,922	194,280
All Other Cities		2,888	26,848	65,564	798	96,098	6,114	2,071	56	234	39,703	48,178	144,276
State Total	189	7,006	77,717	117,132	1,412	203,456	7,008	2,650	3,040	10,079	112,323	135,100	338,556
Minnesota: Minneapolis		80	1,054	5,341	962	7,437	1,345	248			33	1,626	9,063
St. Paul		16	4,454	4,606	1,014	10,090	174	203		45,801	87,603	133,781	143,871
All Other Cities		186	5,238	33,969	2,116	41,509	442	13		6	82	543	42,052
State Total		282	10,746	43,916	4,092	59,036	1,961	464		45,807	87,718	135,950	194,986
Ohio: Cleveland		1,666	1,035	6,869	45	9,615	194		1,381	918	8,283	10,776	20,391
Toledo		1,680	3,586	16,430		21,696	82	277		685		1,044	22,740
All Other Cities	46	2,113	4,333	52,874	89	59,455	2,360	1,470	1,508	9,163	5,569	20,070	79,525
State Total	46	5,459	8,954	76,173	134	90,766	2,636	1,747	2,889	10,766	13,852	31,890	122,656

LAKE STATES CONT'D.

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
Wisconsin: Milwaukee		1,958	92,143	150,268	33,035	277,404	15,797	1,976		873	9,543	28,189	305,593
Sheboygan		31	2,485	12,471	4,106	19,093	1,709	234			84,280	86,223	105,316
Superior			780	1,666	386	2,832	60	113			17,454	17,627	20,459
All Other Cities		575	24,576	60,113	4,889	90,153	1,830	300		67,613	8,033	77,776	167,929
State Total		2,564	119,984	224,518	42,416	389,482	19,396	2,623		68,486	119,310	209,815	599,297
All Other States: Rail Shipments		3,346	11,645	137,296	3,911	156,198	5,072	2,310	12,318	2,370	37,375	59,445	215,643
Truck Shipments		686	7,235	22,418	8,142	38,481	4,441	1,351	1,889	45		7,726	46,207
Total All Other States		4,032	18,880	159,714	12,053	194,679	9,513	3,661	14,207	2,415	37,375	67,171	261,850
Total United States	113,683	2,582,986	9,085,098	12,047,212	4,812,278	28,641,257	6,847,046	4,007,338	5,524,564	1,898,951	1,460,002	19,737,901	48,379,158

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
Ontario:													
Belleville		2,136	7,702	7,622	619	18,079	848	108	106			1,062	19,141
Brantford		3,896	18,169	11,659	1,707	35,431	2,935	496				3,431	38,862
Hamilton		27,450	62,746	41,239	7,099	138,534	10,108	9,902	388			20,398	158,932
Kingston		4,338	15,107	16,741	1,464	37,650	2,938	951				3,889	41,539
London		18,116	21,931	12,946	1,942	54,935	2,169	2,559	381			5,109	60,044
Niagara Falls		5,922	12,384	7,576	2,475	28,357	2,872	40	472	9		3,393	31,750
Oshawa	94	5,453	12,688	12,015	1,268	31,518	944	48				992	32,510
Ottawa		24,550	44,120	26,877	3,099	98,646	25,331	17,487	2,480	332		45,630	144,276
Peterboro		2,387	8,616	8,877	893	20,773	673	97				770	21,543
St. Catharines		3,442	15,389	6,359	775	25,965	1,582	813				2,395	28,360
Toronto		124,795	289,446	181,589	28,945	624,775	65,201	34,491	4,316		866	104,874	729,649
Welland	18,149	2,749	7,924	4,639	914	34,375	1,525	27,917				29,442	63,817
Windsor		9,451	16,254	6,823	212	32,740							32,740
All Other Cities		75,650	287,250	256,982	23,276	643,158	26,168	16,603	4,570	11	243	47,595	690,753
Province Total	18,243	310,335	819,726	601,944	74,688	1,824,936	143,294	111,512	12,713	352	1,109	268,980	2,093,916
Quebec:													
Montreal		74,266	197,862	139,596	19,131	430,855	192,336	136,017	28,643	7,034	864	364,894	795,749
Quebec		11,108	26,268	19,815	175	57,366	42,026	23,911	340	136		66,413	123,779
Sherbrooke		1,484	5,484	4,103	2,142	13,213	4,379	3,421	322			8,122	21,335
Three Rivers		1,113	1,505	836	95	3,549	1,598	2,311	65			3,974	7,523
All Other Cities		19,545	78,967	32,594	2,016	133,122	24,516	32,755	25,036	14,717	4	97,028	230,150

CANADA CONT'D.

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
Quebec: Cont'd. Province Total		107,516	310,086	196,944	23,559	638,105	264,855	198,415	54,406	21,887	868	540,431	1,178,536
Other Provinces	660	14,626	31,069	38,539	3,614	88,508	7,727	5,528			97	13,352	101,860
Unknown Destinations	232	1,259	10,163	10,471	1,304	23,429	37,216	23,158	10,083	157		70,614	94,043
Total Canada	19,135	433,736	1,171,044	847,898	103,165	2,574,978	453,092	338,613	77,202	22,396	2,074	893,377	3,468,355
Other Countries				160		160	18,349		6,018	7,991	20	32,378	32,538
Grand Total	132,818	3,016,722	10,256,142	12,895,270	4,915,443	31,216,395	7,318,487	4,345,951	5,607,784	1,929,338	1,462,096	20,663,656	51,880,051

TRUCK SHIPMENTS

DISTRIBUTION OF PENNSYLVANIA ANTHRACITE FOR THE COAL YEAR, APRIL 1, 1945 TO MARCH 31, 1946.

Destinations	Domestic Sizes						Steam Sizes						
	Broken	Egg	Stove	Chestnut	Pea	Total Domestic	Buckwheat No. 1	Rice	Barley	Buckwheat No. 4	All Other Sizes	Total Steam	Total All Sizes
Delaware:		1,177	16,012	23,290	5,036	45,515	1,393	177				1,570	47,085
Maryland:		2,775	52,965	47,374	13,357	116,471	3,918	755	16			4,689	121,160
New Jersey:		22,404	178,294	308,371	68,190	577,259	50,502	25,166	3,408			79,076	656,335
New York:		14,876	251,794	323,520	64,038	654,228	64,848	22,575	71			87,494	741,722
Pennsylvania: 1/	28,003	44,420	534,758	1,750,754	1,827,768	4,185,703	825,187	558,956	520,981	61,903	85,577	2,052,604	6,238,307
Other States 2/		686	7,844	22,820	8,269	39,619	4,487	1,459	1,889	45		7,880	47,499
Total Truck 3/	28,003	86,338	1,041,667	2,476,129	1,986,658	5,618,795	950,335	609,088	526,365	61,948	85,577	2,233,313	7,852,108

1/ Includes "Local Sales."
2/ See footnote 1/---Connecticut for 1,292 tons of additional truck coal which is included in this total.
3/ See footnotes for the following states: Delaware, Maryland, New Jersey, New York, and Pennsylvania for 421,577 net tons of coal which was reported in such manner that it was impracticable to remove it from the detailed data on rail shipments. However, this tonnage is included in the above figure of 7,852,108 shown for total truck movement.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

J. A. KRUG, Secretary R. R. SAYERS, Director

SEP 11 1946

For Release August 26, 1946.

MINERAL MARKET REPORTS
NO. MMS 1455

ALUMINUM SALTS AND ALUMINA IN 1945

Aluminum salts shipped in the United States in 1945 decreased 2 percent in quantity and 8 percent in value compared with 1944, according to the Bureau of Mines, United States Department of the Interior.

Aluminum salts and alumina produced and shipped in the United States, 1944-45

	1944				1945			
	Production	Shipments			Production	Shipments		
	Short tons	Shippers	Short tons	Value	Short tons	Shippers	Short tons	Value
Aluminum salts:								
Alum:								
Ammonia	7,999	6	7,744	$515,637	8,460	6	8,528	$579,583
Potash	4,530	5	4,049	303,404	4,844	4	5,170	395,859
Aluminum chloride:								
Liquid	5,468	4	5,513	240,856	5,520	4	5,097	257,256
Crystal Anhydrous	24,443	3 7	24,163	3,863,946	21,036	3 7	20,892	2,929,033
Aluminum sulfate:								
Commercial:								
General	566,322	19	555,047	12,751,763	545,209	19	540,030	11,825,418
Municipal	12,145	7	12,142	242,311	12,062	8	12,011	236,729
Iron free	24,193	5	23,476	877,597	29,751	6	29,400	1,053,104
Sodium aluminum sulfate Sodium aluminate	28,810	2 13	28,154	1,940,512	28,842	2 12	28,943	1,892,509
Total aluminum salts	673,910	--	660,288	20,742,020	655,704	--	650,071	19,169,491
Alumina 1/	77,971	10	78,168	7,084,979	65,117	10	66,895	5,187,433

1/ Excludes alumina produced for use in making aluminum; includes activated, calcined, crude, light and heavy hydrate, converted to a calcined alumina equivalent.

Prepared by John H. Weitz and Mary E. Trought, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

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Producers of aluminum salts reported the shipment of 650,071 short tons valued at $19,169,491 in 1945 compared with 660,288 tons valued at $20,742,026 in 1944. Shipments of aluminum sulfate, the principal product of the aluminum salts industry, totaled 581,441 tons in 1945 compared with 590,665 tons in 1944, a decrease of 2 percent. A slight decreased was noted also in the production of sodium aluminum sulfate, whereas the production and sales of sodium aluminate, ammonia and potash alum increased.

Manufacturers of aluminum salts and alumina for the chemical and other industries reported the consumption of approximately 211,273 long tons of domestic bauxite (on an as shipped basis) valued at $2,135,740 and 46,932 tons of imported bauxite valued at $815,776. In addition the consumption of the following raw materials was reported by aluminum salts producers: 13,249 short tons of aluminum trihydrate, 13,523 tons of secondary aluminum, 91,073 tons of clay, and a quantity of alunite and bichromate residue.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

J. A. KRUG, Secretary R. R. SAYERS, Director

For release August 29, 1946

MINERAL MARKET REPORTS
MMS NO. 1456

BAUXITE IN 1945

The sharp decline in domestic mine production of bauxite in 1945 was caused by a decreased demand in the alumina and other industries, use of ore from stockpiles, and a larger excess of imports over exports, according to the Bureau of Mines, United States Department of the Interior. Output of crude bauxite in 1945 totaled an estimated 1,146,785 long tons (981,372 tons, dried equivalent), a decline of over 65 percent from the 3,322,442 tons (2,823,724 tons, dried equivalent) produced in 1944. Value of the 1945 output was estimated at $5,631,335 compared with $14,402,497 in 1944. Shipments of crude bauxite from mines to processing plants, consuming plants, and Government stockpiles in 1945 totaled 1,349,358 tons (1,155,828 tons, dried basis), a decline of 59 percent from 1944.

Table 1. - Production and shipments of crude bauxite from mines in the United States, 1941-45, by States, in long tons

State and year	Production			Shipments to processing plants, consumers, and Government stock piles		
	Crude	Dried bauxite equivalent	Value	Crude	Dried bauxite equivalent	Value, f.o.b. mine
Alabama, Georgia, and Virginia:						
1941.........	93,572	80,854	$351,200	91,803	79,527	$345,118
1942 1/......	166,884	142,128	808,900	165,495	141,988	801,660
1943.........	229,607	196,393	1,227,600	224,369	192,669	1,193,759
1944.........	149,434	128,407	723,470	153,999	132,363	751,557
1945.........	83,326	70,960	394,157	84,890	72,311	395,717
Arkansas:						
1941.........	991,481	856,196	4,324,300	945,317	817,768	4,124,134
1942.........	2,852,051	2,459,906	12,172,500	2,712,732	2,337,784	11,576,098
1943.........	7,053,028	6,036,490	29,432,300	6,825,911	5,818,508	28,487,923
1944.........	3,173,008	2,695,317	13,679,027	3,128,588	2,657,463	13,465,057
1945 2/......	1,063,459	910,412	5,237,178	1,264,468	1,083,517	5,676,911
Total United States:						
1941.........	1,085,053	937,050	4,675,500	1,037,120	897,295	4,469,252
1942.........	3,018,935	2,602,034	12,981,400	2,878,227	2,479,772	12,377,758
1943.........	7,282,635	6,232,883	30,659,900	7,050,280	6,011,177	29,681,682
1944.........	3,322,442	2,823,724	14,402,497	3,282,587	2,789,825	14,216,614
1945 2/......	1,146,785	981,372	5,631,335	1,349,358	1,155,828	6,072,628

1/ Includes Mississippi. 2/ Partly estimated.

Prepared by John H. Weitz and Mary E. Trought under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Production of bauxite dropped 66 percent in Arkansas and 72 percent in Alabama, and increased less than 1 percent in Georgia. Some output was reported from Virginia during 1945. In Saline and Pulaski Counties, Arkansas, whence 93 percent of the 1945 production came, only 7 companies operated during the year.

The quantity of ore treated in processing plants decreased 38 percent in 1945 and totaled 874,180 long tons of crude bauxite compared with 1,408,344 tons in 1944. Total recovery of dried, activated, and calcined bauxite was 655,058 tons, a drop of 41 percent from the 1,117,078 tons recovered in 1944.

Table 2. - Recovery of processed bauxite in the United States, 1941-45 in long tons

Year	Crude ore treated	Processed bauxite recovered			
		Dried	Activated, calcined, or sintered	Total	Dried bauxite equivalent
1941..............	922,691	563,906	145,510	709,416	794,913
1942..............	1,734,761	1,212,964	166,058	1,379,022	1,458,374
1943..............	2,546,849	1,904,328	344,187	2,248,515	2,402,401
1944..............	1,408,344	964,613	152,465	1,117,078	1,188,869
1945..............	874,180	522,533	132,525	655,058	719,416

Stocks of bauxite on hand at mines and processing plants on December 31, 1945, totaled an estimated 395,509 long tons (dried equivalent) compared with 527,093 on December 31, 1944. Stocks at consumers' plants decreased from 663,346 at the beginning of the year to an estimated 467,633 tons at the end. Government-owned stocks of bauxite held by the Office of Metals Reserve diminished 7 percent from 2,969,367 long tons on December 31, 1944 to 2,756,729 tons on December 31, 1945.

During 1945 shipments of crude bauxite and processed bauxite from mines and processing plants to consuming industries totaled 1,063,262 long tons (dried equivalent). Of this quantity 772,250 tons were shipped to the alumina industry, including 339,052 tons shipped to Metals Reserve Company stock piles. Total shipments decreased 60 percent from those in 1944 (2,698,338 tons).

Table 3. - Bauxite shipped from mines and processing plants in the United States, 1944-45, by consuming industries, in long tons

Industry	1944		1945	
	As shipped 1/	Dried bauxite equivalent	As shipped 1/	Dried bauxite equivalent
Alumina...............	2/2,628,481	2/2,335,137	3/833,478	3/772,250
Chemical..............	128,503	127,526	98,664	97,029
Abrasive 4/...........	143,389	209,135	117,493	174,338
Oil refining, refractory 4/, and other...	20,179	26,540	33,078	39,645
Total quantity.....	2,920,552	2,698,338	1,082,713	1,083,262
Total value........	$15,814,431	---------	$7,471,618	---------

1/ Includes crude, dried, calcined, activated, and sintered.

2/ Includes 1,594,487 tons (1,332,673 dried equivalent) shipped to Metals Reserve Co. stock piles.

3/ Includes 400,096 tons (339,052 dried equivalent) shipped to Metals Reserve Co. stock piles.

4/ Small quantity of bauxite shipped to makers of refractories probably included under "Abrasive".

Actual domestic consumption of bauxite (as determined by special monthly and quarterly consumer surveys conducted by the Bureau of Mines) totaled an estimated 2,430,263 long tons (dried equivalent) in 1945 compared with 3,459,761 tons in 1944, a decrease of 30 percent. (These consumption figures include calcined bauxite shipped for export to American-owned abrasive plants in Canada for the manufacture of crude abrasives which are returned to the United States for final manufacture and consumption.) Consumption of bauxite by industries was as follows: Alumina, 2,049,934 long tons or 84 percent; chemicals, 134,766 tons or 6 percent; abrasives and refractories, 201,182 tons or 8 percent; and cement, oil-refining, and steel and ferroalloys, 44,381 or 2 percent. Of the bauxite consumed, it is estimated that 30 percent was imported and 70 percent domestic ore. The alumina industry used 92 percent of all imported bauxite consumed during 1945.

Table 4. - Shipments, imports, exports, and consumption of bauxite in the United States, 1941-45, in long tons (dried bauxite equivalent)

Year	Mines and processing plant shipments	Imports	Exports	Apparent consumption within United States	Actual consumption 1/
1941.........	937,616	1,116,546	218,691	1,835,471	1,721,475
1942.........	2,448,482	884,217	294,176	3,038,523	2,518,325
1943.........	5,947,841	1,541,929	528,839	6,960,931	4,760,848
1944.........	2,698,338	555,647	210,852	3,043,133	3,459,761
1945.........	2/1,083,262	737,081	156,129	2/1,664,214	2/2,430,263

1/ Includes exports to Canada, inasmuch as virtually all of this bauxite is shipped to American-owned plants in Canada for manufacture into crude abrasives reimported into the United States for final manufacture and consumption.

2/ Partly estimated.

Imports of bauxite in 1945 totaled 739,581 long tons, an increase of 32 percent over the 560,461 tons imported in 1944. Exports decreased for the second consecutive year, totaling only 126,077 tons compared with 146,638 tons in 1944.

World production of bauxite is estimated to have decreased from 7,476,500 metric tons in 1944 to 3,926,000 tons in 1945, a decline of nearly 50 percent. Nearly 60 percent of the total world production is estimated to have been mined in the Western Hemisphere by the United States and the Guianas.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

J. A. KRUG, Secretary **R. R. SAYERS, Director**

For Release AUGUST 29, 1946.

Mineral Market Report
MMS No. 1457

ROOFING GRANULES IN 1945.

Output of roofing granules reached a record total of 1,045,280 tons in 1945, according to reports of producers to the Bureau of Mines, United States Department of the Interior. The tonnage was 6 percent greater than in 1944. Shortages of pigments and other materials limited the production of the artificially colored types, and the volume of natural granules increased substantially. Output of natural granules increased 24 percent, whereas artificially colored and brick granules declined 1 and 7 percent respectively. Building maintenance sustained sales of granule-coated asphalt roofing and siding throughout the war, and since the end of hostilities demand has been fortified by the revival of building construction.

Production of Roofing Granules in the United States in 1942-45

Year	Natural		Artificially colored	
	Short tons	Value	Short tons	Value
1942	352,320	$2,650,503	538,310	$7,594,174
1943	287,090	2,190,143	543,870	7,745,452
1944	287,084	2,210,379	637,089	9,313,356
1945	355,840	2,628,052	628,220	9,124,891

Year	Brick		Total	
	Short tons	Value	Short tons	Value
1942	43,230	$636,961	933,860	$10,881,638
1943	47,650	716,685	878,610	10,652,280
1944	65,827	1,005,964	990,000	12,529,699
1945	61,220	947,637	1,045,280	12,700,580

Prepared by G. W. Josephson, Under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

J. A. KRUG, Secretary **R. R. SAYERS, Director**

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For Release September 5, 1946.

MINERAL MARKET REPORTS
MMS No. 1458.

ALUMINUM IN 1945

Primary aluminum output in the United States in 1945 is estimated at 496,487 short tons, a decline of 36 percent from the 776,446 tons produced in 1944 and 46 percent below the all-time high of 920,179 tons in 1943, according to the Bureau of Mines, United States Department of the Interior. There was a moderate production increase early in the year as a result of temporary military reverses on the western front in Europe, but output dropped steadily after May as the war drew to a close. All Government-owned aluminum metal and alumina plants were closed by Oct. 31, 1945, leaving only the privately-owned plants of the Aluminum Company of America and Reynolds Metals Co. in operation.

Production, imports, exports, and apparent consumption of primary aluminum and production of secondary aluminum in the United States, 1941-45

Year	Primary aluminum					Secondary aluminum	
	Production		Imports (Short tons)	Exports (Short tons)	Apparent consumption 1/ (Short tons)	Short tons	Value 2/
	Short tons	Value					
1941......	309,067	$100,395,000	13,358	7,405	302,788	106,857	$34,707,153
1942......	521,106	151,371,000	112,112	38,747	588,969	196,464	57,446,074
1943......	920,179	265,380,000	135,581	117,624	877,349	313,961	90,546,352
1944......	776,446	222,416,000	100,969	188,108	744,627	325,645	93,264,728
1945......	496,487	141,924,000	334,125	5,741	796,081	298,387	85,297,005

1/ Data not available on fluctuations in consumers' stocks. Withdrawals from producers' stocks totaled 55,320 in 1944; additions to producers' stocks totaled 12,232 tons in 1941, 5,502 in 1942, 60,787 in 1943, and 28,790 in 1945.
2/ Based upon average price of primary aluminum as reported to the Bureau of Mines.

Recovery of secondary aluminum in 1945 totaled 298,387 short tons compared with 325,645 tons in 1944. It included 2,241 tons of aluminum as pure metal (98.5+ percent), 293,871 tons in aluminum alloys, 1,162 tons in brass and bronze, 267 tons in zinc-base alloys, and 846 tons of aluminum in chemical compounds. Production in the form of secondary ingots totaled 198,426 tons (214,879 tons in 1944). The secondary aluminum recovered in 1945 required the consumption of 323,676 tons of aluminum scrap, of which 10 percent was old and 90 percent was new scrap.

Prepared by John H. Weitz and Mary E. Trought, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

Stocks of virgin ingot aluminum held by the Reconstruction Finance Corporation on December 31, 1945, totaled 185,750 short tons. Total stocks of primary and secondary aluminum held by producers, distributors, consumers, and the Government plus that available from wrecked and obsolete aircraft are estimated to have been more than 1,000,000 tons at the end of 1945.

The average value of primary aluminum shipped in 1945 is estimated at 14.3 cents a pound compared with 14.3 cents in 1944 and 14.4 cents in 1943. Quoted prices for virgin ingot remained at 15 cents a pound and for pig aluminum at 14 cents throughout 1945.

Apparent domestic consumption of primary aluminum in 1945 incrased 7 percent to 796,081 short tons (744,627 in 1944). This figure is somewhat inflated, however, inasmuch as Government stocks in the United States increased greatly during the year. As military requirements for aluminum declined, large quantities of the metal began going into roofing sheet, railroad cars, truck and bus bodies, civilian aircraft, ship superstructures, small-boat hulls, furniture, appliences, and hundreds of other articles.

Imports of crude and semicrude aluminum in 1945 reached an all-time high mark of 339,293 short tons valued at $98,289,943, three times as great as the 1944 entries, according to the United States Department of Commerce. The tremendous increase was a result of war contracts between the United States and Canada. All of the imports of crude metal, scrap, and plates, sheets, and bars were from Canada, except for 589 tons of plates, sheets, and bars shipped from the United Kingdom. Imports of aluminum (crude metal and alloys only) constituted 42 percent of the apparent consumption of primary aluminum during 1945.

Exports of crude and semicrude aluminum during 1945 dropped to 6,543 short tons valued at $3,064,240 from the previous years peak of 188,521 tons valued at $73,578,734. Virtual cessation of Lend-Lease shipments of primary aluminum to Russia caused the precipitous drop in exports. Of the 1945 exports of ingots, slabs, and crude metal totaling 2,209 tons, 520 went to Brazil, 476 to U.S.S.R., 261 to Mexico, 178 to Canada, 144 to Chile, 133 to Argentina, 122 to Cuba, 117 to Uruguay, 90 to Sweden, and less than 50 tons each to thirteen other countries. Of 802 tons of scrap aluminum exported, 353 tons went to Canada, 252 to Mexico, 140 to Brazil, 56 to Cuba, and less than 1 ton each to Venezuela and Bermuda. Of 3,532 tons of exported plates, sheets, bars, etc., 1,375 tons went to U.S.S.R., 935 to Canada, 480 to Brazil, 163 to Colombia, 163 to Mexico, and less than 100 tons each to 44 other countries.

World production of primary aluminum is estimated at 916,000 metric tons in 1945 compared with 1,702,000 tons in 1944. The greatest decline in output was in Germany and the central and southeastern European countries where facilities were captured during the first 4 months of the year. Of the 1945 production, it is estimated that 49 percent was by the United States, 21 percent by Canada, 9 percent by U.S.S.R., 4 percent each by France and United Kingdom, and 13 percent by other countries.

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MINERAL INDUSTRY SURVEYS
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
J. A. KRUG, Secretary R. R. SAYERS, Director

For release September 16, 1946.

MINERAL MARKET REPORTS
MMS No. 1459

MAGNESIUM IN 1945

Domestic output of primary magnesium totaled 32,792 short tons in 1945, a 79-percent decline from the 157,100 tons produced in 1944, according to the Bureau of Mines, United States Department of the Interior. Seven plants, four of which were Government-owned, provided the output. Decreasing demand for war purposes resulted in suspension of all operations by the end of 1945 except for a single plant owned by Dow Chemical Co.

Production, sales, exports, and apparent consumption of primary magnesium metal in the United States, 1941-45, in short tons

Year	Production		Sales	Exports 1/	Apparent consumption 2/
	Raw, crude, and pure ingot	Ingot equivalent			
1941	16,295	16,295	15,528	1,549	13,979
1942	(3/)	48,963	47,420	4,045	43,375
1943	190,025	183,584	170,267	14,720	155,547
1944	161,935	4/ 157,100	146,585	4,830	141,755
1945	33,106	32,792	43,496	496	43,000

1/ In addition, magnesium alloys were exported: 20,911 tons in 1943, 16,171 tons in 1944, and 22 tons in 1945. 2/ Does not consider fluctuations in consumers' stocks and metal derived from scrap. Withdrawals from producers' stocks totaled 10,704 tons in 1945; additions to producers' stocks totaled 767 tons in 1941; 1,543 tons in 1942; 13,317 tons in 1943; and 10,515 tons in 1944. 3/ Not available. 4/ Does not include magnesium content of incendiary mixture produced direct.

Recovery of secondary magnesium totaled 9,247 short tons (including alloying ingredients and secondary magnesium incorporated in primary magnesium ingot) in 1945 compared with 14,185 tons in 1944. It required the consumption of 10,650 tons of magnesium scrap, 91 percent of which was new scrap. Of the magnesium recovered, 7,359 tons were as ingot, 496 tons went into castings, 864 tons into magnesium-alloy shapes, 274 tons into aluminum alloys, 13 tons into other alloys, and 241 tons into chemicals and incendiary products.

The largest share of the magnesium consumed in industry during 1945 was used for war purposes — incendiaries, aircraft parts and accessories, rocket launchers, flares, and tracers. Although consumption of the metal for war uses dropped sharply after the surrender of Germany and even more sharply after the Japanese capitulation, civilian uses were a very small share of total use. Apparent consumption of pure primary magnesium in 1945, calculated by subtracting exports from sales, totaled 43,000 tons in 1945 compared with 141,755 tons in 1945, a decrease of 70 percent.

Prepared by John H. Weitz and Mary E. Trought, under the supervision of Charles White Merrill, Chief, Metal Economics Division, Economics and Statistics Branch.

A somewhat incomplete survey of actual consumption indicated 43,987 short tons, a decrease of 67 percent from the 132,698 tons consumed in 1944.

Actual domestic consumption of primary magnesium (ingot equivalent and magnesium content of magnesium-base alloys) in 1944-45, by uses

Product	1944	1945 1/
Structural products:		
Castings:		
Sand	44,773	18,405
Die	1,165	803
Permanent mold	59,181	8,307
Sheet	1,543	1,517
Structural shapes, rods, tubing (extrusions)	4,784	2,452
Forgings	344	157
Total structural	111,790	31,641
Other products:		
Powder	9,080	4,769
Aluminum alloys	6,868	5,589
Other alloys	12	24
Scavenger and deoxidizer	159	228
Chemical	156	182
Other 2/	4,633	1,554
Total other products	20,908	12,346
Grand total	132,698	43,987

1/ Owing to lack of returns from a number of companies, figures are necessarily incomplete. 2/ Includes primary metal consumed in making secondary alloy.

The base price of standard four-notch primary magnesium ingot remained at 20.5 cents a pound throughout 1945. The suspension of price control on the metal by the Office of Price Administration August 30, 1945, had no effect on quotations during the remainder of the year.

Imports of magnesium in 1945 in all forms, all of which came from Canada, totaled 20,308 pounds valued at $3,768 and consisted of 14,561 pounds of metal and scrap; 15 pounds of magnesium alloy; and 5,732 pounds of powder.

Exports of magnesium in primary form decreased from 21,001 tons in 1944 to 518 tons in 1945, a drop of 98 percent; large decreases in exports of metal in other forms, and of powder, were also recorded. Of the metal in primary form 280 tons went to U.S.S.R., 210 to Mexico, 22 tons to Sweden, and 2 tons or less each to 9 other countries. Canada received 84 tons of the magnesium metal exported in other forms; U.S.S.R. received 48 tons; and 8 tons went to numerous other countries. The magnesium powder exports were distributed as follows: United Kingdom 554 tons, Canada 91 tons, Brazil 73 tons, and Mexico 2 tons.

World output of primary magnesium declined sharply in 1945 to an estimated 55,000 metric tons compared with 239,900 tons in 1944, a decrease of 77 percent. The largest drop from a tonnage standpoint was in the United States but the percentage decrease was perhaps greater among the Axis Nations.

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MINERAL INDUSTRY SURVEYS
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
J. A. KRUG, Secretary
R. R. SAYERS, Director

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MINERAL MARKET REPORT
M. M. S. NO. 1460

FOR RELEASE SEPTEMBER 30, 1946

VALUATION OF TOTAL MINERAL PRODUCTION IN ALASKA INCREASES 48 PERCENT IN 1945

Final statistics show a valuation of $10,210,000 for the total mineral output of Alaska in 1945, an increase of 48 percent compared with the valuation of $6,903,000 for 1944, according to the Economics and Statistics Branch of the Bureau of Mines. Gold production of the Territory increased 38 percent -- from 49,296 ounces valued at $1,725,360 in 1944 to 68,117 ounces valued at $2,384,095 in 1945.

The principal gain for the year was made by the nonmetals, the valuation for which group was $6,478,000 in 1945, compared with $3,557,000 in 1944 -- a gain of 82 percent. Valuation for the entire metals group increased only 12 percent, from $3,346,000 in 1944 to $3,732,000 in 1945. Coal was one of the few nonmetals to decline in production and value in 1945, output totalling 300,000 tons valued at $1,905,000, compared with 348,375 tons and $2,239,684 in 1944.

Despite its favorable statistical position in 1945 compared with 1944, the mining industry of Alaska found 1945 disappointing. The release of men and equipment from war work following VJ-day came too late in the season to have much influence on the mineral output. The ending of the war found most of the gold mines closed, stripped of tools and equipment, and with their former working forces widely scattered. In the fall it is customary for most of the men to come in from the creeks to spend the winter in town or "outside;" and between the end of the fighting in August and this annual exodus, there was not enough time to do much. The tie-up of transportation that came not long after as a result of picketing the docks at Seattle and a longshoreman strike at various Pacific Coast ports made the bringing in of new equipment difficult -- when the companies were able to buy such equipment.

One feature of the present situation which may prove to be of long-time significance is the interest being shown in the Territory by Canadian companies which have taken options on properties in several districts. Mining in Canada has been very profitable in recent years, and Canadian companies have considerable amounts of money for reinvestment. Another new current in mining in Alaska is the entrance of some of the construction companies which came into the Territory to build airfields and other war facilities. They are well financed, are experienced in moving dirt and other operations common in mining, and are controlled by men who are accustomed to taking risks. Early successes on their part may well mean a lot for the future of mining in Alaska.

Production and valuation statistics for the mineral output of Alaska in 1944 and 1945 are presented on the following page.

Prepared by H. D. Keiser, under the supervision of E. W. Pehrson, Chief, Economics and Statistics Branch.

Mineral production of Alaska in 1944 and 1945

Product	1944 Quantity	1944 Value	1945 Quantity	1945 Value
Antimony ore (concentrates)..............short tons..	73	$6,465	....	....
Arsenic..............................do............	(1)	(1)	(1)	(1)
Asbestos.............................do............	(2)	(2)	....	....
Chromite.............................do............	1,845	64,456	....	....
Coal.................................do............	348,375	2,239,684	300,000	$ 1,905,000
Copper...............................pounds.........	4,000	540	10,000	1,350
Gems and precious stones..............................	....	....	....	(3)
Gold.............................troy ounces......	49,296	1,725,360	68,117	2,384,095
Lead.............................short tons.......	44	7,040	11	1,892
Mercury...................flasks (76 pounds)..........	(2)	(2)	(2)	(2)
Ores (crude), etc.:				
Copper...........................short tons.......	....	....	6	(4)
Dry and siliceous (gold & silver).......do..........	381,574	(4)	6,506	(4)
Lead ore.............................do...........	....	....	49	(4)
Platinum metals (crude)..............troy ounces......	33,616	(2)	26,505	(2)
Sand and gravel......................short tons.......	712,496	499,269	(2)	(2)
Silver...............................troy ounces.......	13,362	9,502	9,983	7,099
Stone................................short tons........	(2)	(2)	(2)	(2)
Tungsten ore (60-percent concentrates)....do..........	19	(2)	....	....
Miscellaneous 5/..	....	2,350,309	....	5,910,704
Total value, eliminating duplications................	....	6,903,000	....	10,210,000

1/ Figures not available.
2/ Value included under "Miscellaneous."
3/ No canvass.
4/ Not valued as ore; value of recoverable metal content included under the metals.
5/ Includes minerals indicated by 2/above.

	1944	1945
Metals................	$3,346,000...	$3,732,000
Nonmetals............	3,557,000...	6,478,000

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

J. A. KRUG, Secretary
R. R. SAYERS, Director

FOR IMMEDIATE RELEASE
September 17, 1946.

MINERAL MARKET REPORTS
M.M.S. NO. 1461.

FINAL ANNUAL FIGURES - PLEASE FILE FOR REFERENCE UNTIL PRINTED REPORT IS AVAILABLE

ASPHALT SALES INCREASE 2 PERCENT IN 1945.

Domestic demand for petroleum asphalt was one percent higher in 1945 than in 1944 and export demand considerably larger, so that total demand, domestic and foreign, increased 2 percent in 1945 over 1944, according to the Bureau of Mines, Department of the Interior. To meet the greater demand, petroleum refineries in the United States enlarged their output 2 percent from 1944 to 1945; and more asphalt was imported. Stocks, however, were 11 percent higher at the end of 1945 than at the beginning of the year.

Of the total petroleum asphalt sold to domestic consumers, 15.8 percent in 1945 was manufactured from foreign petroleum (imported from Venezuela, Colombia, and Mexico), compared with 10.6 percent in 1944.

All of the asphalt made from foreign petroleum in 1945 was made in refineries of the East Coast of the United States.

Highway and street construction used (in the form of paving asphalt, paving flux, cut-back asphalts, and asphalt emulsions) 64 percent of the total asphalt sold to domestic consumers by petroleum refineries in 1945 compared with 67 percent in 1944. Although street and road surfacing and maintenance was apparently 13 percent higher in 1945 than in 1944, sales of paving asphalt used for high-type surfacing increased less than one percent in tonnage; and sales of cut-back asphalts were 9 percent lower in 1945 than in 1944. If sales of asphalt emulsions by secondary manufacturers are added to refinery sales, emulsion sales decreased 4 percent in quantity--from 88,872,774 gallons (377,188 short tons) in 1944 to 85,227,027 gallons (361,715 tons) in 1945--but increased 2 percent in value--from $7,083,834 in 1944 to $7,204,813 in 1945.

Roofing manufacture made the second-largest demand for asphalt, absorbing 26 percent of the total sales to domestic consumers in 1944 and 30 percent in 1945. Sales of roofing asphalt and roofing flux combined increased 16 percent from 1944 to 1945.

Reported sales of road oil, or rather liquid asphalt, increased 26 percent in quantity but decreased 6 percent in value from 1944 to 1945. Road oil sales totaled 2,031,000 barrels valued at $3,783,000 in 1944 and 2,567,000 barrels valued at $3,561,000 in 1945.

Prepared by A. H. Redfield, International Petroleum Section, Petroleum Economics Division.

Bituminous rock did not share in the continued demand which maintained sales of paving asphalt at their 1944 level. Its sales declined from 740,454 short tons valued at $2,771,925 in 1944 to 642,600 tons valued at $2,565,925 in 1945.

Gilsonite, however, was in greater demand in 1945 than in 1944. Sales by producers in Utah increased fron 49,051 short tons valued at $915,480 in 1944 to 61,273 tons valued at $250,546 in 1945.

Production, receipts, stocks, consumption, transfers, losses, rxports, and domestic sales of asphalt (exclusive of road oil) at petroleum refineries in the United States in 1945, by districts, in short tons

District	Production	Receipts from other sources	Stocks		Consumption by companies transfers, losses, and exports	Sales to domestic consumers
			Dec. 31 1944	Dec. 31, 1945		
East Coast	1,602,200	253,500	100,200	125,300	187,000	1,643,600
Appalachian	315,000	27,000	33,400	35,300	11,600	328,500
Indiana, Illinois, Kentucky, etc.	1,450,700	109,200	115,100	140,500	246,600	1,287,900
Oklahoma, Kansas, and Missouri	671,500	119,600	96,900	79,100	77,900	731,000
Texas:						
Gulf Coast	314,700	--------	20,900	24,700	92,300	218,600
Inland	315,200	7,000	21,100	37,100	66,200	240,000
Total Texas	629,900	7,000	42,000	61,800	158,500	458,600
Louisiana-Arkansas:						
Louisiana Gulf Coast	409,000	--------	51,100	53,100	50,100	356,900
Arkansas and Louisiana Inland	403,000	57,200	42,900	43,400	49,900	409,800
Total Louisiana-Arkansas	812,000	57,200	94,000	96,500	100,000	766,700
Rocky Mountain	289,900	65,200	40,600	46,700	79,000	270,000
California	1,355,400	12,800	104,000	107,500	--------	1,364,700
Total United States:						
1945	7,126,600	651,500	626,200	692,700	860,600	6,851,000
1944	6,996,100	302,500	563,300	626,200	500,500	6,735,200

Asphalt and asphaltic material (exclusive of road oil) sold at petroleum refineries to domestic consumers in the United States in 1945, by varieties

[Value f.o.b. refinery]

	From domestic petroleum		From foreign petroleum		Total	
	Short tons	Value	Short tons	Value	Short tons	Value
Solid and semisolid products of less than 200 penetration:						
Asphalt for--						
Paving	1,565,092	$18,255,481	338,910	$4,595,255	1,904,002	$22,850,736
Roofing	907,903	11,408,782	392,347	5,213,473	1,300,250	16,622,255
Waterproofing	73,325	1,099,343	27,924	394,659	101,249	1,494,002
Blending with rubber	9,971	158,080	9,512	135,083	19,483	293,163
Briquetting	154,538	1,493,256	357	4,964	154,895	1,498,220
Mastic and mastic cake	10,811	171,890	23,293	314,176	34,104	486,066
Pipe coatings	17,783	266,624	172	2,404	17,955	269,028
Molding compounds	44,804	589,015	14	206	44,818	589,221
Miscellaneous uses	163,633	2,275,437	12,343	149,024	175,976	2,424,461
	2,947,860	35,717,908	804,872	10,809,244	3,752,732	46,527,152
Semisolid and liquid products of more than 200 penetrations:						
Flux for--						
Paving	212,836	1,620,324	12,248	162,344	225,084	1,782,668
Roofing	734,012	5,917,901	15,342	201,495	749,354	6,119,396
Waterproofing	7,834	75,574	------	-------	7,834	75,574
Mastic	50,048	498,654	------	-------	50,048	498,654
Cut-back asphalts:						
Rapid-curing	546,404	6,401,957	146,383	2,131,033	692,787	8,532,990
Medium-curing	1,086,855	12,003,616	82,131	1,080,086	1,168,986	13,083,702
Emulsified asphalts and fluxes	68,967	697,268	976	14,502	69,943	711,770
Paints, enamels, japans, and lacquers	31,422	475,796	14,767	197,083	46,189	672,879
Other liquid products	83,985	806,508	4,042	64,258	88,027	870,766
	2,822,363	28,497,598	275,889	3,850,801	3,098,252	32,348,399
Total: 1945	5,770,223	64,215,506	1,080,761	14,660,045	6,850,984	78,875,551
1944	6,022,954	66,109,282	712,222	9,605,382	6,735,176	75,714,664

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

J. A. KRUG, Secretary

R. R. SAYERS, Director

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For Release September 27, 1946.

MINERAL MARKET REPORT
MMS No. 1462

BARITE IN THE SECOND QUARTER OF 1946

Production of barite in the second quarter of 1946, advancing seasonally, was higher than during any previous second quarter and has been surpassed only by the record output in the third quarter of 1945, according to the Bureau of Mines, United States Department of the Interior.

As in the first quarter, total production in the second quarter again exceeded total shipments, owing to great activity in Arkansas and Missouri, and stocks of crude barite were built up in Missouri to unusually high levels. On the east coast, however, the shortage of barite was accentuated by lower production in Georgia and Tennessee in the first half of 1946 compared with the comparable period of 1945. The steady decline in shipments of barite to well drillers in the Gulf area is being offset in some degree by increased shipments to lithopone makers, and as the construction program unfolds, the amount of barite required for lithopone may be expected to increase further. Shipments to chemical manufacturers continued the down-trend begun after VJ day.

The second quarter marked the completion of the washer of Dellinger and Duckett at Athens, Tenn., and shipments therefrom to an eastern consumer. The O.P.A. granted the partnership a price ceiling of $11.50 a long ton for chemical-grade material, f.o.b. Athens, in Letter Order 46 to M.P.R. 327, effective June 25, 1946.

Imports of crude and ground barite into the United States for consumption, in the first and second quarters of 1946, by countries

	First quarter		Second quarter		Total 6 months	
	Short tons	Value	Short tons	Value	Short tons	Value
Crude barite:						
Canada.............	---	---	13,760	$78,181	13,760	$78,181
Mexico.............	114	$646	---	---	114	646
	114	646	13,760	78,181	13,874	78,827
Ground barite........	---	---	---	---	---	---

Of the foregoing Canadian imports, 7,040 tons valued at $40,000 arrived in May and 6,720, valued at $38,181, in June.

Prepared by Charles L. Harness and F. M. Barsigian, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division; Economics and Statistics Branch.

Production, distribution, and stocks of barite during the first and second quarters of 1945 and 1946, in short tons

	First quarter		Second quarter		Total for 6 months	
	1945	1946	1945	1946	1945	1946
Production of primary barite by States:						
Arkansas	55,613	67,662	66,643	67,166	122,256	134,828
Georgia	28,139	11,670	27,881	20,064	56,020	31,734
Missouri	46,234	1/ 62,294	57,197	70,561	103,431	132,855
Tennessee	7,713	3/ 12,964	8,546	5/23,161	16,259	14,979
Other States	2/ 7,578		4/17,110		4/24,688	5/21,146
	145,277	1/154,590	177,377	180,952	322,654	335,542
Estimated distribution of domestic barite by Uses:						
Well drilling	91,781	1/ 86,551	122,115	82,776	213,896	169,327
Chemicals	15,724	1/ 22,030	16,801	14,404	32,525	36,434
Lithopone	22,075	1/ 21,162	26,027	43,526	48,102	64,688
Glass	5,991	6,229	6,388	7,068	12,379	13,297
Filler	8,833	1/ 10,696	11,484	13,356	20,317	24,052
Other	--	1/6/1,411	--	56	--	6/ 1,467
	144,404	1/148,079	182,815	161,186	327,219	309,265
Production of ground and crushed barite	109,172	1/104,813	1/130,402	103,019	239,574	207,832
Crude barite stocks end of quarter: Held by producers, crushers, and grinders of crude barite	22,069	1/ 36,623	21,109	60,769	--	--

[1] Revised figure.
[2] Includes California and North Carolina.
[3] Includes California.
[4] Includes California, Nevada, and North Carolina.
[5] Includes California and Nevada.
[6] Includes exports.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

J. A. KRUG, Secretary **R. R. SAYERS, Director**

FOR RELEASE OCTOBER 31, 1946

MINERAL MARKET REPORT
M.M.S. No. 1463

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STATISTICAL SUMMARY OF LIGNITE IN 1945

The production of lignite in 1945, exclusive of small mines producing less than 1,000 tons, totaled 2,668,310 net tons, according to the Bureau of Mines, United States Department of the Interior. The average value per ton was $1.55. The total employees numbered 838 and the average output per man per day, based upon calculated man-days was 14.26 tons. The output per man per day is high in the lignite industry compared with other coal mining in the United States because a large part of the total production, 74 percent in 1945, is recovered from strip pits where the average output per man per day is much higher than deep mining. The number of lignite mines reporting production of more than 1,000 tons in 1945 totaled 65. Mechanical loading underground was not used to any great extent, as only 3 operations in North Dakota and 1 in Montana reported the use of mobile loaders.

As for many years in the past, North Dakota was the chief producer of lignite in 1945, followed in order by Texas, Montana, and South Dakota. The North Dakota output comprised 95 percent of the total production, that of Texas, South Dakota, and Montana taken together, 5 percent.

According to the Federal Power Commission, 668,636 tons of lignite were consumed in the West North Central States for generating electric energy in 1945; 39 tons, in the West South Central States; and 338,130 tons, a large part of which was subbituminous, in the Mountain States.

The Bureau of Mines prepared this report from an annual canvass of operators of lignite properties included in the areas mapped as "lignite" in Geological Survey Professional Paper 100-A, The Coal Fields of the United States. Subbituminous coal is not included. The data on individual operations are voluntary and confidential, as is customary in the statistical surveys of the Bureau.

Prepared by Marian I. Cooke, Anthracite and Coke Section, J. A. Corgan, Chief. Coal Economics Division, Economics and Statistics Branch.

PRODUCTION, VALUE, MEN EMPLOYED, DAYS OPERATED, MAN-DAYS OF LABOR, and OUTPUT PER MAN PER DAY AT LIGNITE MINES IN THE UNITED STATES, 1945 1/

(Includes coal produced in the areas mapped as "lignite" in Geol. Survey Prof. Paper 100-A. Note that subbituminous coal, sometimes known as "black lignite", is not included.)

State	Net tons					Value		Number of employees				Avg. No. of days mines operated	Man-days of labor 2/	Avg. tons per man per day 2/
	Loaded at mines for shipment	Commercial sales by truck or wagon	Used by employees, taken by locomotives at tipple and other uses	Used at mines for power and heat	Total quantity	Total (thous. Dol.)	Avg. per ton	Under-ground	Surface		Total			
									In strip pits	All others				
Montana 3/	- - -	4/ 41,597	(4)	- - -	41,597	99	$2.38	31	2	7	40	196	7,828	5.31
North Dakota	2,023,257	430,445	5/ 47,486	21,131	2,522,319	3,924	1.56	227	282	248	757	226	171,251	14.73
South Dakota	5,360	4/ 19,085	(4)	- - -	24,445	53	2.17	4	11	- -	15	259	3,881	6.30
Texas	79,051	- - -	898	- - -	79,949	68	.85	- -	19	7	26	158	4,096	19.52
Total	2,107,668	491,127	48,384	21,131	2,668,310	4,144	1.55	262	314	262	838	223	187,056	14.26

1/ Exclusive of small mines producing less than 1,000 tons. In 1944 tonnage from such mines amounted to 22,644 net tons.
2/ Based upon calculated man days.
3/ Includes output of Custer, Dawson, McCone, Richland, Roosevelt, and Sheridan Counties.
4/ Some "other uses" is included in "commercial sales by truck or wagon."
5/ Includes some "lignite made into briquets."

PRODUCTION, VALUE, MEN EMPLOYED, MAN-DAYS OPERATED, AND OUTPUT PER MAN PER DAY AT LIGNITE MINES IN 1945, BY COUNTIES.

(Includes coal produced in the areas mapped as "lignite" in U. S. Geol. Survey Prof. Paper 100-A. Note that subbituminous coal, sometimes known as "black lignite," is not included.)

MONTANA

County	Total tons produced (net tons)	Value		Total number of employees	Man days of labor 1/	Average number of days mine operated	Average tons per man per day 1/
		Total (thousand dollars)	Average per ton				
Custer	15,080	37	$2.45	13	1,992	153	7.57
Dawson	2,560	6	2.34	4	720	180	3.56
McCone	1,133	3	2.65	2	270	135	4.20
Richland	6,409	14	2.18	8	1,600	200	4.01
Roosevelt	2,933	12	4.09	6	1,356	226	2.16
Sheridan	13,482	27	2.00	7	1,890	270	7.13
Total	41,597	99	2.38	40	7,828	196	5.31

NORTH DAKOTA

County	Total tons produced (net tons)	Total (thousand dollars)	Average per ton	Total number of employees	Man days of labor 1/	Average number of days mine operated	Average tons per man per day 1/
Adams	60,633	111	1.83	36	3,973	110	2/ 15.26
Bowman	4,495	11	2.45	7	1,050	150	4.28
Burke	414,833	616	1.48	74	16,364	221	2/ 25.35
Burleigh	222,586	382	1.72	69	13,973	203	15.93
Divide	206,709	277	1.34	32	7,168	224	2/ 28.84
Dunn	4,834	13	2.69	6	1,200	200	4.03
Grant	17,700	44	2.49	10	1,698	170	2/ 10.42
Hettinger	20,281	49	2.42	15	3,073	205	2/ 6.60
McKenzie	5,938	15	2.53	8	1,068	134	5.56
McLean	46,605	115	2.47	61	10,835	178	4.30
Mercer	848,455	1,239	1.46	230	60,179	262	2/ 14.10
Morton	21,462	57	2.66	27	5,413	200	3.96
Oliver	5,500	9	1.64	5	950	190	2/ 5.79
Stark	77,347	132	1.71	50	12,883	258	6.00
Ward	548,060	816	1.49	111	29,249	264	2/ 18.74
Williams	16,881	38	2.25	16	2,175	136	7.76
Total	2,522,319	3,924	1.56	757	171,251	226	14.73

SOUTH DAKOTA

County	Total tons produced (net tons)	Total (thousand dollars)	Average per ton	Total number of employees	Man days of labor 1/	Average number of days mine operated	Average tons per man per day 1/
Dewey	17,092	34	1.99	8	2,416	302	2/ 7.07
Harding	1,833	5	2.73	2	400	200	4.58
Perkins	5,520	14	2.54	5	1,065	213	2/ 5.18
Total	24,445	53	2.17	15	3,881	259	6.30

TEXAS

County	Total tons produced (net tons)	Total (thousand dollars)	Average per ton	Total number of employees	Man days of labor 1/	Average number of days mine operated	Average tons per man per day 1/
Milam	79,949	68	.85	26	4,096	158	2/ 19.52

1/ Based upon "calculated" man days. 2/ Output is obtained chiefly from strip pits in which the production per man per day is large.

NUMBER AND SIZE OF LIGNITE MINES

For 1945 the Bureau of Mines received reports from 65 lignite mines (exclusive of mines producing less than 1,000 tons a year). Most of the operations were located in North Dakota which State accounted for 53; Montana was next in order with 7 mines; and South Dakota and Texas followed with 4 and 1, respectively. In the field as a whole the classification by size of output was as follows:

NUMBER AND PRODUCTION OF LIGNITE MINES, CLASSIFIED BY SIZE OF OUTPUT, IN 1945

Classes	Mines		Production		
	Number	Percent	Total (Net tons)	Average per mine (Net tons)	Percent
1 (100,000 tons and over)	7	10.8	2,122,778	303,254	79.6
2 (50,000-100,000)	3	4.6	192,967	64,322	7.2
3 (10,000-50,000)	10	15.4	203,146	20,315	7.6
4 (1,000-10,000)	45	69.2	149,419	3,320	5.6
Total	65	100.0	2,668,310	41,051	100.0

LENGTH OF WORKING DAY IN LIGNITE MINES

Reports from operators in the lignite fields in 1945 show that 68 percent of the total mines reporting were working an 8-hour day. The men employed at these mines accounted for 66 percent of the total men employed at the lignite mines. Eight mines working 7-hour or 9-hour shifts employed 7 percent of the men working in the industry. Mines working less than 7 or more than 9 hours or not reporting the length of shift numbered 13 and accounted for 27 percent of the total men employed in the lignite industry.

NUMBER OF LIGNITE MINES IN THE UNITED STATES HAVING ESTABLISHED WORKING SHIFT OF CERTAIN LENGTH, AND NUMBER OF MEN EMPLOYED THEREIN, IN 1945

State	7 hours		8 hours		9 hours		Not reporting, and all others 1/		Total	
	Mines	Men	Mines	Men	Mines	Men	Mines	Men	Mines	Men
Montana	2	9	5	31	---	---	---	---	7	40
North Dakota	2	29	35	482	3	17	13	229	53	757
South Dakota	---	---	3	13	1	2	---	---	4	15
Texas	---	---	1	26	---	---	---	---	1	26
Total	4	38	44	552	4	19	13	229	65	838

1/ Includes mines where days were more than 9 or less than 7 hours, also includes many small mines which failed to answer the question.

LIGNITE LOADED FOR SHIPMENT IN 1945 BY INDIVIDUAL RAILROADS, AS REPORTED BY OPERATORS, IN NET TONS

Railroads	State	Quantity
Great Northern	North Dakota	574,532
Chicago, Milwaukee, St. Paul & Pacific	(North Dakota	33,739
	(South Dakota	5,360
Northern Pacific	North Dakota	805,645
Minneapolis, St. Paul & Sault Ste. Marie	North Dakota	609,341
Rockdale, Sandow & Southern	Texas	79,051
Total		2,107,668

STRIPPING OPERATIONS

The production of lignite from strip pits in 1945 amounted to 1,962,168 tons—74 percent of the total output of the industry. As for many years in the past most of the stripping—that is 95 percent of all strip-pit production and 70 percent of the total tonnage produced by the lignite industry—was done in North Dakota where 1,859,674 tons were produced by that method. The output from stripping operations in Texas, Montana and South Dakota was only 102,494 tons. The number of men employed in stripping operations was 482 with an average output per man per day of 18.66 tons and the average number of days worked was 218.

Detailed statistics for stripping operations in the lignite industry are shown in the following table.

SUMMARY OF STRIPPING OPERATIONS THAT PRODUCED LIGNITE IN 1945

	Number of strip pits 1/	Number of shovels, dragline excavators, and coal-loading machines 2/	Mined by stripping (Net tons)	Total value at mines (thousand dollars)	Average value per ton	Number of employees			Average number of days mines operated	Man-days of labor 3/	Average tons per man per day 3/
						In strip pits	All others	Total			
Montana----------	1	1	1,133	3	$2.65	2	- -	2	135	270	4.20
North Dakota------	30	43	1,859,674	2,841	1.53	282	161	443	220	97,573	19.06
South Dakota------	2	2	21,412	45	2.10	11	- -	11	295	3,241	6.61
Texas-------------	1	2	79,949	68	.85	19	7	26	158	4,096	19.52
Total--------	34	48	1,962,168	2,957	1.51	314	168	482	218	105,180	18.66

1/ Includes some pits in which the stripping is done by hand. 2/ In some cases the same equipment was used for stripping or excavating and for loading the coal; this duplication has been eliminated. In some cases the coal was excavated by machine and loaded by hand. 3/ Based upon calculated man-days.

METHODS OF RECOVERY

LIGNITE MINED BY DIFFERENT METHODS IN 1945, BY STATES, IN NET TONS

	From underground workings				From strip pits	Grand total production
	Mined by hand	Shot off the solid	Cut by machines 1/	Total underground		
Montana----------	- - -	40,464	- - -	40,464	1,133	41,597
North Dakota------	12,943	26,168	623,534	662,645	1,859,674	2,522,319
South Dakota------	- - -	3,033	- - -	3,033	21,412	24,445
Texas-------------	- - -	- - -	- - -	- - -	79,949	79,949
Total--------	12,943	69,665	623,534	706,142	1,962,168	2,668,310

1/ A total of 16 machines was used—13 "permissible" and 3 other types.

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MINERAL INDUSTRY SURVEYS
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
J. A. KRUG, Secretary
R. R. SAYERS, Director

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For Release OCTOBER 4, 1946

MINERAL MARKET REPORT
MMS NO. 1464

BALL CLAY SALES INCREASED IN 1945

Sales of ball clay in 1945, reported to the Bureau of Mines, United States Department of the Interior, were 12 percent higher than in 1944, and 12 percent lower than in 1941, when ball clay reached an all-time record of 198,445 tons. The Tennessee-Kentucky field furnished 93 percent of the total output; Tennessee accounted for 47 percent, and Kentucky 46 percent. The remaining 7 percent came from New Jersey and Maryland.

Over 90 percent of the ball clay outout in 1945 was sold for use in pottery, 5 percent in high-grade tile, and the remainder in a variety of uses such as saggers, terra cotta, and refractories. The requirements for pottery in 1941 was 150,253 tons; in 1942, 138,332 tons; in 1943, 133,337 tons. In 1944 there was an increase to 139,483 tons, and in 1945, the sales of ball clay for this purpose was 158,419, - passing the 1941 record.

The average value reported by producers to the Bureau of Mines was $9.11 in 1945, compared with $8.84 in 1944.

Ball clay sold by producers in the United States, 1943-45, by States

State	1943		1944		1945	
	Short tons	Value	Short tons	Value	Short tons	Value
Kentucky........	69,982	$622,309	72,729	$669,419	80,077	$744,599
Maryland........	(1)	(1)	(1)	(1)	(1)	(1)
Missouri........	(1)	(1)	...	...	...	...
New Jersey......	(1)	(1)	(1)	(1)	(1)	(1)
Tennessee.......	70,606	593,657	73,339	624,297	82,835	752,289
Undistributed 2/	7,197	55,508	9,599	82,380	11,612	92,987
	147,785	1,271,474	155,667	1,376,096	174,524	1,589,875

1/ Included under "Undistributed". 2/ Includes States indicated by "(1)" above.

Prepared by A. Linn, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division; Economics and Statistics Branch.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

J. A. KRUG, Secretary
R. R. SAYERS, Director

For Release OCTOBER 4, 1946.

MINERAL MARKET REPORT
MMS NO. 1465

KAOLIN OR CHINA CLAY IN 1945

The output of kaolin in 1945 was 8 percent greater than in 1944, according to figures released by the Bureau of Mines, United States Department of the Interior. Sales of kaolin for use in refractories declined, but kaolin used in the manufacture of paper, rubber, linoleum, paints, and other products increased in 1945. Georgia furnished 75 percent of the tonnage, South Carolina 17 percent, and most of the remaining 8 percent came from Florida, North Carolina, and Pennsylvania.

Kaolin found its largest use in the manufacture of paper, which took 59 percent of the total. Rubber clay, which increased 84 percent over 1944, was 12 percent of the total. Kaolin used in refractories decreased 13 percent and furnished 10 percent of the total. Pottery consumed 8 percent, and the remaining 11 percent went into a variety of products as linoleum, chemicals, paints, plasters, and insecticides. The national average value as reported by producers was $9.65 in 1945, compared with $9.00 in 1944.

Kaolin sold or used by producers in the United States, 1943-45, by States.

State	1943		1944		1945	
	Sh. tons	Value	Sh. tons	Value	Sh. tons	Value
Alabama..........	(1)	(1)	(1)	(1)	(1)	(1)
California........	7,167	$81,855	8,462	$88,267	8,286	$80,600
Delaware..........	(1)	(1)	...	...	...	...
Florida..........	(1)	(1)	(1)	(1)	(1)	(1)
Georgia..........	732,590	6,232,572	674,400	5,823,424	702,388	6,684,527
Illinois..........	(1)	(1)	(1)	(1)	(1)	(1)
North Carolina....	(1)	(1)	(1)	(1)	(1)	(1)
Pennsylvania......	20,474	99,650	15,501	61,245	13,965	50,589
South Carolina....	115,340	962,433	118,634	1,068,476	159,550	1,467,328
Tennessee.........	(1)	(1)	...	...	...	...
Utah..............	(1)	(1)	(1)	(1)	(1)	(1)
Vermont..........	(1)	(1)	(1)	(1)	...	...
Virginia..........	(1)	(1)	(1)	(1)	(1)	(1)
Undistributed 2/	53,866	690,812	56,059	817,328	55,799	789,883
	929,437	8,067,322	873,056	7,858,740	939,988	9,072,927

1/ Included under "Undistributed". 2/ Includes States indicated by "(1)" above.

Prepared by A. Linn under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division; Economics and Statistics Branch.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

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J. A. KRUG, Secretary **R. R. SAYERS, Director**

For Release OCTOBER 7, 1946.

MINERAL MARKET REPORT
MMS NO. 1466

RECORD OUTPUT OF BENTONITE IN 1945

Breaking sales records has become virtually a habit of bentonite producers. In 1945, for the seventh consecutive year, more bentonite was sold or used by producers than in any previous year, according to the Bureau of Mines, United States Department of the Interior. Output in 1945 exceeded the 1944 tonnage by 5 percent and tripled that of 1938.

The major markets for bentonite have been developed in the foundry and petroleum industries. Sales for use as a foundry-sand bond increased steadily during the war but declined 11 percent in 1945, when reconversion reduced foundry activity.

On the other hand, sales to the petroleum industry for use in drilling muds, required to control gas pressures, increased 34 percent in 1945, more than compensating for the loss of foundry business. Approximately 28 percent of the total output was used for drilling mud and the same percentage for foundries. A little over 25 percent was used for oil filtering and decolorizing, and the remainder in a wide variety of uses.

Almost 66 percent of the total output came from Wyoming - South Dakota area; 35 percent was produced in Wyoming and 31 percent in South Dakota.

The average value of bentonite at the mine has declined from $7.50 per ton in 1943 to $7.29 in 1945.

Bentonite sold or used by producers in the United States, 1944-45, by States

State	1944		1945	
	Short tons	Value	Short tons	Value
Arizona............	(1)	(1)	(1)	(1)
California..........	6,649	$60,404	16,187	$145,424
Colorado............	...	...	(1)	(1)
Mississippi.........	(1)	(1)	(1)	(1)
Montana.............	...	...	(1)	(1)
South Dakota........	169,893	1,104,919	178,374	1,202,555
Texas...............	24,081	216,861	24,503	247,940
Utah................	(1)	(1)	(1)	(1)
Wyoming.............	196,138	1,711,193	199,293	1,686,912
Undistributed 2/.....	150,007	512,611	155,641	487,794
	546,768	3,605,988	573,998	3,770,625

1/ Included under "Undistributed." 2/ Figures include States indicated by "(1)".

Prepared by G. W. Josephson and A. Linn, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division; Economics and Statistics Branch.

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

J. A. KRUG, Secretary

R. R. SAYERS, Director

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FOR RELEASE November 19, 1946.

MINERAL MARKET REPORT
M. M. S. No. 1468

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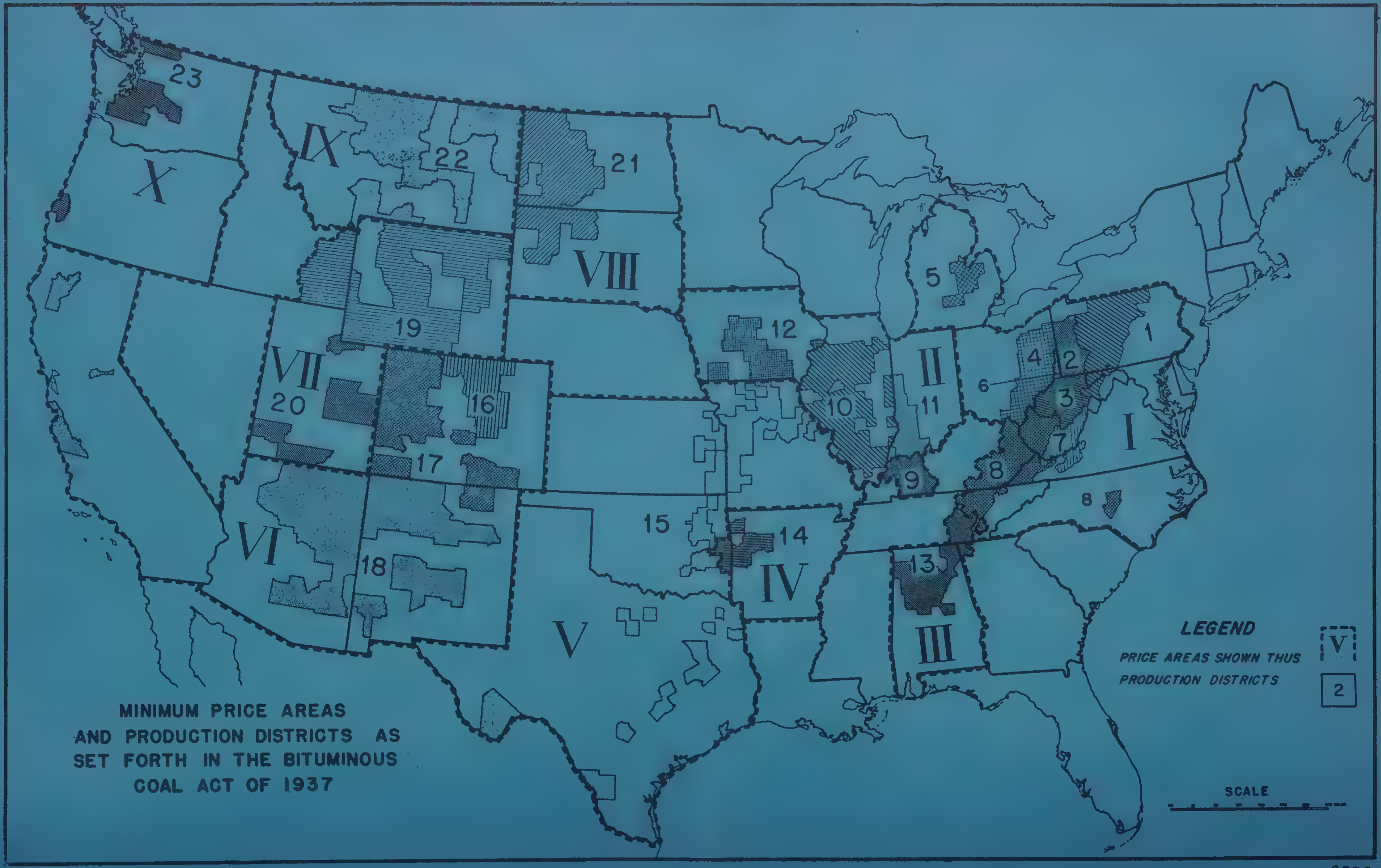
BITUMINOUS COAL AND LIGNITE IN 1945

Prepared by W. H. Young, R. L. Anderson, and L. H. Isaac under the supervision of T. W. Hunter, Chief, Coal Economics Division, Economics and Statistics Branch.

Information compiled in cooperation with the Solid Fuels Administration for War.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MINIMUM PRICE AREAS AND PRODUCTION DISTRICTS AS SET FORTH IN THE BITUMINOUS COAL ACT OF 1937

BITUMINOUS COAL AND LIGNITE

SUMMARY OUTLINE

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SURVEY OF THE BITUMINOUS-COAL AND LIGNITE INDUSTRY IN 1945

The purpose of this interim report is to make available, as soon as possible after the completion of the annual canvass, the final figures on the bituminous-coal industry for the calendar year 1945. The Minerals Yearbook, 1946, will, as in the past, carry preliminary data for 1946 and final figures for 1945.

Production. - The production of soft coal in 1945 - an output of 577,617,327 net tons 1/ - declined 7 percent from the previous all-time high of 619,576,240 tons in 1944. Though production was lower than the previous year there was still little seasonal decline and the demand for coal remained strong throughout the year.

Consumption. - All of the major classes of consumers used less coal in 1945 than in 1944 with the exception of cement mills and bunkers in foreign trade. The total consumption in 1945 was approximately 32,000,000 tons less than in 1944. Table 8 shows the trends in consumption for the major classes of consumers.

Changes in stocks. - The reserve supply of bituminous coal and lignite in the hands of industrial consumers and retail coal yards decreased from 57,204,000 tons at the beginning of 1945 to 45,665,000 tons at the close. The days' supply of stocks decreased from 32 to 27. Stocks on the upper Lake docks decreased 1,110,206 tons from January 1 to December 31, 1945.

1/ Throughout this report, "tons" refers to net tons of 2,000 pounds, unless otherwise indicated.

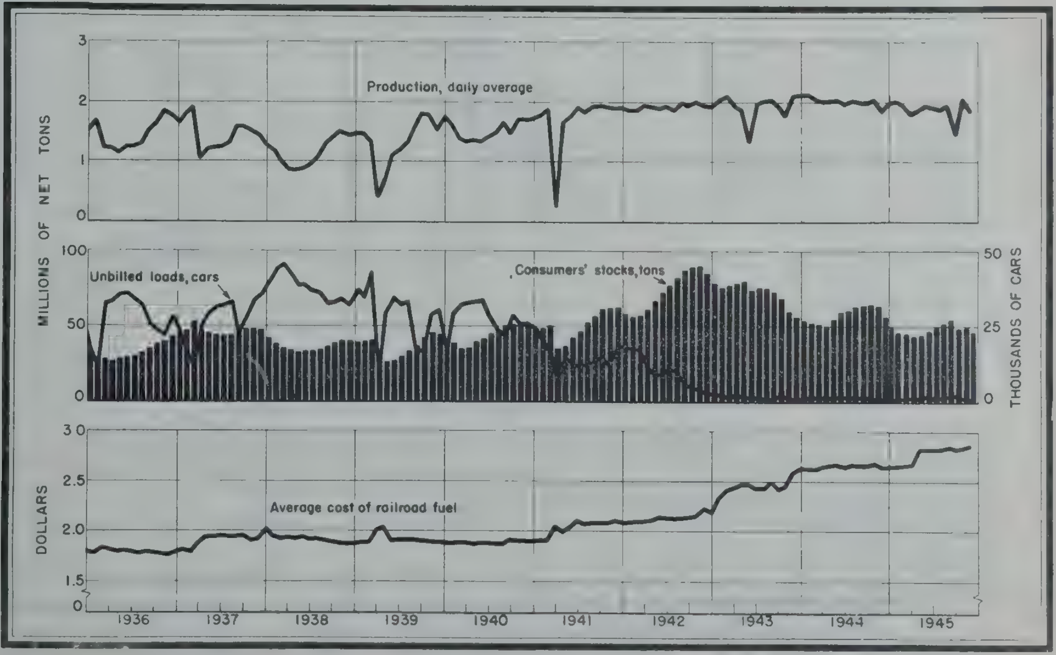

Figure 1. - Trends of production, stocks, and prices of bituminous coal and lignite in the United States, 1936-45.

Distribution. - Shipments of bituminous coal and lignite during 1945 showed decreases in most of the channels of distribution compared with 1944. Table 13 shows trends in distribution of bituminous coal and lignite for 1939-45. Changes in the monthly volume of the more important movements are shown in figure 9.

Mechanization. - The quantity of coal loaded mechanically at underground mines in the United States continued to advance during 1945. Mechanical loading increased from 53 percent of the total underground output in 1944 to 56 percent in 1945. Sales of underground loading equipment, in terms of capacity, were 25 percent greater than in 1944.

Mechanical cleaning. - The total capacity of mechanical-cleaning equipment sold for use at bituminous-coal mines in 1945 was estimated at 10,100 tons of cleaned coal per hour, an increase of 87 percent from the previous year.

Trend of employment. - The average number of men employed at bituminous-coal and lignite mines in 1945 registered a drop to 383,100 men from 393,347 in 1944.

Index to capacity. - The potential output upon a 308-day basis (6-day week, full-time capacity) was 682,000,000 tons in 1945. Since it is not possible for all mines to operate 308 days per year, a more conservative figure of 280 days was suggested some years ago by the coal committee of the American Institute of Mining and Metallurgical Engineers (see Minerals Yearbook, 1935, pp. 631-632). The average output per day worked in 1945 was 2,213,093 tons, which (if applied to 280 days) gives an annual potential output of 620,000,000 tons compared with the actual total production of 577,617,327 tons. For purposes of historical comparison, a capacity of 261 days, based on the 5-day week, is also shown in figure 4 and tables 15 and 16.

Trend of fuel efficiency. - For many years prior to 1942 there was a steady trend toward increased fuel efficiency. During the period 1942-45 this trend was arrested or reversed. All industries shown in table 9 exhibited decreased fuel efficiency in 1945 compared to 1944 except electric public-utility power plants, which registered no change.

Competition of oil and gas. - Shortly after the close of the war increased competition between the fuels developed, with numerous reports of conversion from coal to fuel oil.

Electric power utilities consumed 9 percent less bituminous coal, 3 percent less fuel oil and 9 percent less gas in 1945 than in 1944.

Class 1 railroads decreased their consumption of coal 5 percent in 1945, and their purchases of fuel oil were decreased from 1944 purchases by 1 percent.

The manufacture of domestic coal-burning equipment is reflected in statistics published by the Bureau of the Census. Factory sales of domestic stokers for burning bituminous coal increased from 1,714 in 1944 to 89,522 in 1945. Shipments of domestic oil burners, boiler-burner units, and furnace-burner units increased from 45,752 in 1944 to 139,611 in 1945.

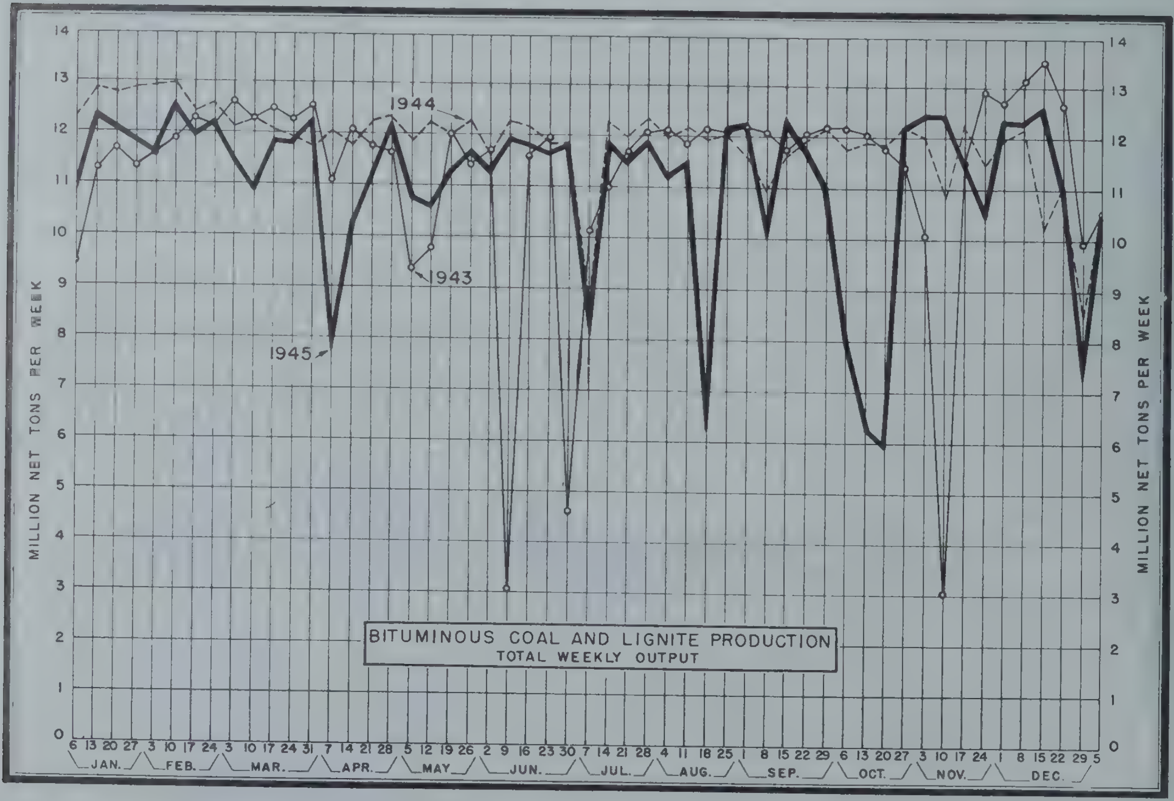

Figure 2. - Production of bituminous coal and lignite in the United States, by weeks, 1943-45.

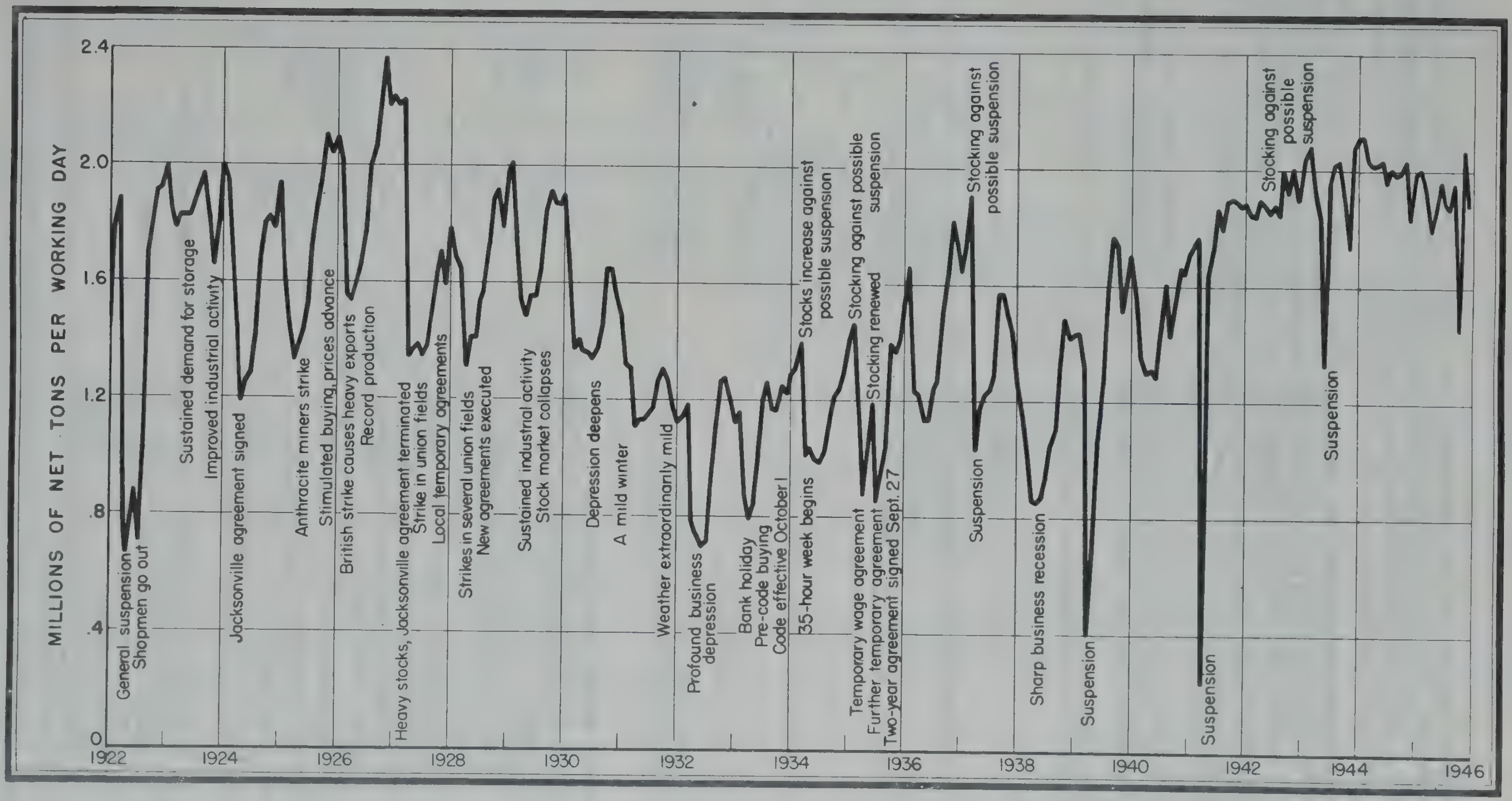

Figure 3. - Average production of bituminous coal and lignite in the United States per working day in each month, 1922-45.

SOURCES OF DATA

Data for 1945 are final and are based upon detailed annual reports of production and mine operation furnished by the producers. As in previous years, all but a small percentage of the output was covered by the reports submitted. For the remaining output not directly reported - consisting chiefly of small mines - it has been possible to obtain reasonably accurate data from the records of the State mine departments, which have statutory authority to require such reports or, in a few instances, from railroad carloadings.

Final figures of employment obtained from the annual canvass of production as shown in this report for 1945 differ slightly from the estimated total of employment based on the monthly canvass of accidents at mines accounting for approximately 75 percent of the total bituminous-coal output, as published in the chapter from Minerals Yearbook, 1945, entitled "Employment and Injuries in the Mineral Industries." According to the annual canvass, the average number of men employed amounted to 383,100, whereas the monthly canvass indicated that the total average number working was 363,000. The major cause for this slight discrepancy was that the figure determined by the annual canvass represented the average number of men on the rolls per pay period while the other represented the average of men working daily.

In accordance with the practice followed by the Bureau of Mines in previous years, the statistics in this report relate to mines having an output of 1,000 tons a year or more and do not attempt to include many small mines producing less than 1,000 tons a year that sell their output by wagon or truck.

These data include, for convenience and historical comparison, the small output of anthracite and semianthracite produced outside Pennsylvania and the production of lignite.

SALIENT STATISTICS

TABLE 1. - SALIENT STATISTICS OF THE BITUMINOUS-COAL AND LIGNITE INDUSTRY IN THE UNITED STATES, 1944-45

(All tonnage figures represent net tons)

	1944	1945	Change in 1945
			Percent
Production	619,576,240	577,617,327	- 6.8
Consumption in the United States 1/	591,830,000	559,567,000	- 5.5
Stocks at end of year:			
Industrial consumers and retail yards	57,204,000	45,665,000	- 20.2
Stocks on upper Lake docks	6,159,448	5,049,242	- 18.0
Unbilled loads, at mines or in classification yards 2/	37,900	37,050	- 2.2
			Cents
Price indicators (average per net ton):			
Average cost of railroad fuel purchased, f.o.b. mines 3/	$2.65	$2.78	+ 13
Average cost of coking coal at merchant byproduct ovens 4/	$5.64	$5.90	+ 26
Average retail price - 35 cities 5/	$10.27	$10.49	+ 22
Average railroad freight charge per net ton 6/	$2.21	$2.20	- 1
			Percent
Underground loading machinery sold: 7/			
Mobile loading machines (number)	282	349	+ 23.8
Scrapers (number)	20	6	- 70.0
Conveyors, including those with duckbills (units)	580	738	+ 27.2
"Mother" conveyors (units)	(8)	137	(8)
Surface stripping	100,898,376	109,986,865	+ 9.0
Mechanically loaded underground	274,189,132	262,512,729	- 4.3
Mechanically cleaned	158,727,129	147,885,936	- 6.8
Average number of men employed at mines operating	393,347	383,100	- 2.6
Fuel efficiency indicators:			
Pounds of coal per kw.-hr. at electric power plants 9/	1.30	1.30	---
Pounds per 1,000 gross ton-miles - railroads 10/	114	115	+ .9

1/ Represents certain classes of consumers only. See table 8 for consumers included.

2/ Association of American Railroads.

3/ Interstate Commerce Commission (class I steam railways, including class I switching and terminal companies). Excludes freight charges.

4/ As reported by coke operators.

5/ Bureau of Labor Statistics.

6/ Average receipts per net ton of revenue bituminous coal and lignite originated, as reported by the Interstate Commerce Commission.

7/ Young, W. H., and Anderson, R. L., Sales of Mechanical Loading and Cleaning Equipment: Coal Age, February 1946, pp. 95-97, and Min. Cong. Jour., February 1946, pp. 106-109.

8/ Data not available.

9/ Federal Power Commission.

10/ Interstate Commerce Commission; includes coal equivalent of fuel oil consumed.

TABLE 2. - BITUMINOUS-COAL AND LIGNITE PRODUCTION (FINAL FIGURES) IN THE UNITED STATES IN 1945, WITH ESTIMATES BY WEEKS

Week ended-	Production (net tons)	Number of working days	Average production per working day (net tons)	Week ended-	Production (net tons)	Number of working days	Average production per working day (net tons)
Jan. 6	10,762,000	5.6	1,922,000	July 14	11,962,000	6	1,994,000
Jan. 13	12,387,000	6	2,065,000	July 21	11,450,000	6	1,908,000
Jan. 20	12,170,000	6	2,028,000	July 28	11,968,000	6	1,995,000
Jan. 27	11,895,000	6	1,983,000	Aug. 4	11,243,000	6	1,874,000
Feb. 3	11,595,000	6	1,933,000	Aug. 11	11,524,000	6	1,921,000
Feb. 10	12,655,000	6	2,109,000	Aug. 18	6,221,000	4.6	1,352,000
Feb. 17	11,947,000	6	1,991,000	Aug. 25	12,210,000	6	2,035,000
Feb. 24	12,246,000	6	2,041,000	Sept. 1	12,287,000	6	2,048,000
Mar. 3	11,387,000	6	1,898,000	Sept. 8	10,043,000	5	2,009,000
Mar. 10	10,836,000	6	1,806,000	Sept. 15	12,355,000	6	2,059,000
Mar. 17	11,945,000	6	1,991,000	Sept. 22	11,815,000	6	1,969,000
Mar. 24	11,844,000	6	1,974,000	Sept. 29	11,074,000	6	1,846,000
Mar. 31	12,329,000	6	2,055,000	Oct. 6	8,172,000	6	1,362,000
Apr. 7	7,743,000	5.2	1,489,000	Oct. 13	6,234,000	6	1,039,000
Apr. 14	10,259,000	6	1,710,000	Oct. 20	5,961,000	6	994,000
Apr. 21	11,268,000	6	1,878,000	Oct. 27	12,237,000	6	2,040,000
Apr. 28	12,246,000	6	2,041,000	Nov. 3	12,522,000	6	2,087,000
May 5	10,766,000	6	1,794,000	Nov. 10	12,523,000	6	2,087,000
May 12	10,560,000	6	1,760,000	Nov. 17	11,553,000	5.6	2,063,000
May 19	11,266,000	6	1,878,000	Nov. 24	10,373,000	5	2,075,000
May 26	11,740,000	6	1,957,000	Dec. 1	12,426,000	6	2,071,000
June 2	11,165,000	5.5	2,030,000	Dec. 8	12,314,000	6	2,052,000
June 9	12,009,000	6	2,002,000	Dec. 15	12,686,000	6	2,114,000
June 16	11,780,000	6	1,963,000	Dec. 22	11,150,000	6	1,858,000
June 23	11,648,000	6	1,941,000	Dec. 29	7,273,000	5	1,455,000
June 30	11,797,000	6	1,966,000	Jan.5,1946	1,717,000	1/ 1	2/ 2,013,000
July 7	8,079,000	5	1,616,000		577,617,000	305.5	1,891,000

1/ Figures represent output and number of working days in that part of week included in the calendar year shown. Total production for the week ended January 5, 1946, was 10,263,000 net tons.

2/ Average daily production for the entire week and not for the working days in the calendar year shown.

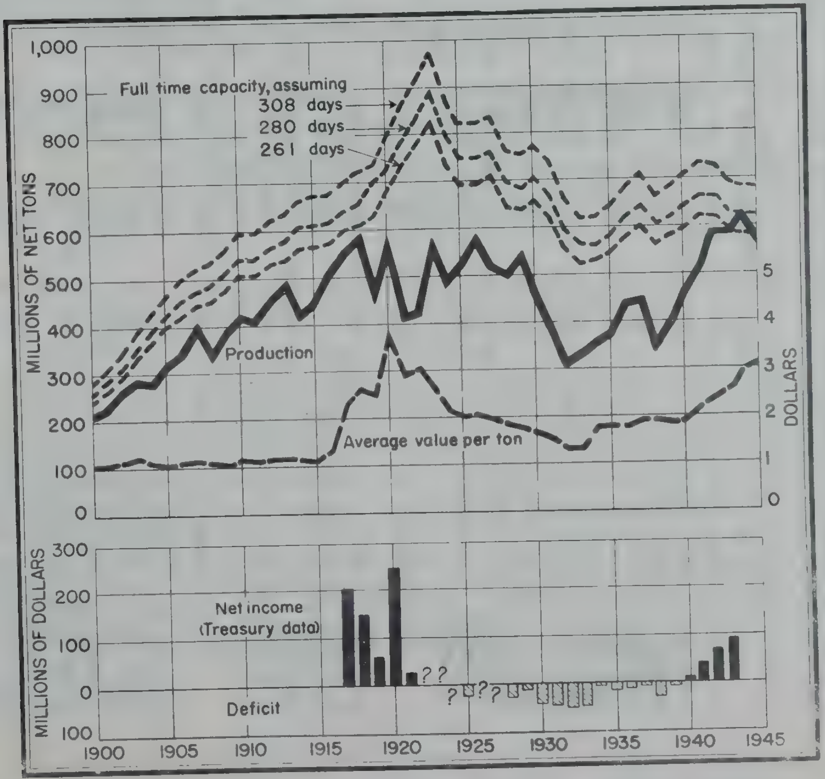

Figure 4. - Trends of bituminous-coal and lignite production, realization, mine capacity, and net income or deficit in the United States, 1900-45.

TABLE 3. - COAL PRODUCTION IN THE UNITED STATES, IN 1945, BY STATES (FINAL FIGURES), WITH ESTIMATES BY MONTHS, IN THOUSANDS OF NET TONS

(Totals for year are based on final complete returns from all operators known to have produced more than 1,000 tons a year. Apportionment of known yearly total among the twelve months is based upon best information available; in some States upon direct tonnage reports by operators to State mine departments; in most cases upon current records of railway carloadings and waterway shipments.)

State	January	February	March	April	May	June	July	August	September	October	November	December	Total
Alabama	1,645	1,389	1,617	852	1,735	1,625	1,525	1,567	1,577	1,711	1,579	1,414	18,236
Alaska	31	27	31	26	20	18	20	20	21	30	28	26	298
Arkansas	170	144	150	112	150	155	160	159	144	172	176	162	1,854
Colorado	759	728	761	564	517	519	501	556	579	736	680	721	7,621
Georgia	3	1	3	3	3	3	4	5	4	5	6	3	43
Illinois	6,976	6,252	6,738	5,597	5,794	6,141	5,436	5,567	5,817	6,724	6,100	5,869	73,011
Indiana	2,611	2,245	2,380	1,571	2,168	2,217	2,240	2,049	2,010	1,446	2,128	2,118	25,183
Iowa	199	193	196	127	155	155	153	173	159	208	171	157	2,046
Kansas	337	302	313	248	255	241	239	269	246	262	270	246	3,228
Kentucky:													
Eastern	4,862	4,444	4,601	3,603	4,645	4,393	3,906	3,888	4,116	2,261	4,485	3,945	49,149
Western	1,749	1,519	1,635	1,590	1,776	1,727	1,726	1,674	1,595	1,994	1,734	1,725	20,444
Total Kentucky	6,611	5,963	6,236	5,193	6,421	6,120	5,632	5,562	5,711	4,255	6,219	5,670	69,593
Maryland	145	133	162	133	145	146	140	139	139	163	166	152	1,763
Michigan	11	11	12	10	11	10	8	9	11	11	11	11	126
Missouri	416	373	386	306	314	298	294	332	304	323	333	304	3,983
Montana:													
Bituminous	450	380	442	321	347	356	345	351	308	342	375	408	4,425
Lignite	4	5	4	3	3	3	3	3	3	3	4	4	42
Total Montana	454	385	446	324	350	359	348	354	311	345	379	412	4,467
New Mexico	148	128	149	111	117	117	119	113	115	129	121	117	1,484
North Dakota (lignite)	295	232	167	125	136	156	156	150	182	287	314	322	2,522
Ohio	2,694	2,412	2,599	2,491	2,993	3,010	2,914	3,064	2,914	2,044	2,894	2,708	32,737
Oklahoma	266	227	236	175	235	244	251	249	227	271	275	253	2,909
Pennsylvania (bituminous)	11,484	10,780	12,210	9,947	11,560	12,546	11,496	11,423	10,742	8,081	11,728	10,968	132,965
South Dakota (lignite)	3	3	2	3	2	2	2	2	1	1	2	1	24
Tennessee	632	553	571	340	591	536	506	537	530	364	612	499	6,271
Texas (lignite)	13	10	8	5	7	5	5	4	5	6	7	5	80
Utah	663	593	623	535	546	542	513	505	488	553	583	535	6,679
Virginia	1,617	1,535	1,576	1,281	1,590	1,511	1,354	1,324	1,388	1,336	1,474	1,249	17,235
Washington	138	121	138	109	106	106	95	101	97	118	112	116	1,357
West Virginia	13,881	12,764	14,007	12,608	12,910	13,570	12,480	12,820	12,596	8,735	13,630	12,034	152,035
Wyoming	929	773	866	693	788	784	770	748	748	943	925	880	9,847
Other States 1/	3	3	1	1	1	1	1	1	1	1	3	3	20
Total bituminous coal and lignite	53,134	48,280	52,584	43,490	49,620	51,137	47,362	47,802	47,067	39,260	50,926	46,955	577,617
Pennsylvania anthracite 2/	4,219	4,471	5,269	5,124	2,083	5,667	4,944	4,656	4,640	5,304	4,559	3,998	54,934
Grand total	57,353	52,751	57,853	48,614	51,703	56,804	52,306	52,458	51,707	44,564	55,485	50,953	632,551

1/ Includes Arizona and Oregon.
2/ Includes Sullivan County.

TABLE 4. - BITUMINOUS- COAL AND LIGNITE PRODUCTION IN THE UNITED STATES, IN 1945, BY DISTRICTS (FINAL FIGURES), WITH ESTIMATES BY MONTHS, IN THOUSANDS OF NET TONS

(Districts as defined in the Bituminous Coal Act of 1937, and modifications thereto. Exclusive of mines producing less than 1,000 tons a year)

(Totals for year are based on final complete returns from all operators known to have produced more than 1,000 tons during the year. Apportionment of known yearly total among the twelve months is based upon best information available; in some States upon direct tonnage reports from operators to State mine departments; in most cases upon current records of railroad carloadings and waterway shipments)

Minimum Price Area and Producing District	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
PRICE AREA 1													
Dist. 1. Eastern Pennsylvania 1/	4,639	4,429	5,149	4,528	4,702	5,258	4,803	4,740	4,697	4,446	4,827	4,529	56,747
Dist. 2. Western Pennsylvania	7,082	6,564	7,318	5,625	7,087	7,545	6,925	6,913	6,275	3,860	7,185	6,689	79,068
Dist. 3. Northern West Virginia	3,586	3,168	4,117	3,850	3,580	4,230	4,004	3,978	3,671	2,940	4,037	3,805	44,966
Dist. 4. Ohio	2,694	2,412	2,599	2,491	2,993	3,010	2,914	3,064	2,914	2,044	2,894	2,708	32,737
Dist. 5. Michigan	11	11	12	10	11	10	8	9	11	11	11	11	126
Dist. 6. Panhandle	420	372	407	436	405	404	430	400	346	256	415	318	4,609
Dist. 7. Southern Numbered 1	5,316	4,957	5,097	4,570	4,780	5,040	4,301	4,675	4,664	3,382	4,954	4,271	56,007
Dist. 8. Southern Numbered 2	11,461	10,606	10,911	8,793	10,786	10,122	9,325	9,340	9,741	5,950	10,563	9,151	116,749
Total Price Area 1	35,209	32,519	35,610	30,303	34,344	35,619	32,710	33,119	32,319	22,889	34,886	31,482	391,009
PRICE AREA 2													
Dist. 9. West Kentucky	1,749	1,519	1,635	1,590	1,776	1,727	1,726	1,674	1,595	1,994	1,734	1,725	20,444
Dist. 10. Illinois	6,976	6,252	6,738	5,597	5,794	6,141	5,436	5,567	5,817	6,724	6,100	5,869	73,011
Dist. 11. Indiana	2,611	2,245	2,380	1,571	2,168	2,217	2,240	2,049	2,010	1,446	2,128	2,118	25,183
Dist. 12. Iowa	199	193	196	127	155	155	153	173	159	208	171	157	2,046
Total Price Area 2	11,535	10,209	10,949	8,885	9,893	10,240	9,555	9,463	9,581	10,372	10,133	9,869	120,684
PRICE AREA 3													
Dist. 13. Southeastern	1,765	1,503	1,748	965	1,839	1,731	1,623	1,657	1,698	1,822	1,699	1,501	19,551
PRICE AREA 4													
Dist. 14. Arkansas-Oklahoma	207	176	183	136	183	189	195	194	176	210	215	197	2,261
PRICE AREA 5													
Dist. Southwestern:													
Bituminous coal	982	870	902	705	771	749	749	815	745	818	839	768	9,713
Lignite (Texas)	13	10	8	5	7	5	5	4	5	6	7	5	80
Total Price Area 5	995	880	910	710	778	754	754	819	750	824	846	773	9,793
PRICE AREA 6													
Dist. 16. Northern Colorado	289	261	243	162	115	108	106	141	185	255	227	259	2,351
Dist. 17. Southern Colorado 2/	565	548	614	481	494	502	485	501	488	584	549	555	6,366
Dist. 18. New Mexico 3/	54	48	53	32	25	26	29	27	21	26	26	25	392
Total Price Area 6	908	857	910	675	634	636	620	669	694	865	802	839	9,109
PRICE AREA 7													
Dist. 19. Wyoming 4/	929	773	866	693	788	784	770	748	748	943	925	880	9,847
Dist. 20. Utah	663	593	623	535	546	542	513	505	488	553	583	535	6,679
Total Price Area 7	1,592	1,366	1,489	1,228	1,334	1,326	1,283	1,253	1,236	1,496	1,508	1,415	16,526
PRICE AREA 8													
Dist. 21. North-South Dakota (lignite) ...	298	235	169	128	138	158	158	152	183	288	316	323	2,546
PRICE AREA 9													
Dist. 22. Montana (bituminous and lignite)	454	385	446	324	350	359	348	354	311	345	379	412	4,467
PRICE AREA 10													
Dist. 23. Washington 5/	140	123	139	110	107	107	96	102	98	119	114	118	1,373
Alaska	31	27	31	26	20	18	20	20	21	30	28	26	298
Total Price Area 10	171	150	170	136	127	125	116	122	119	149	142	144	1,671
Grand total 6/	53,134	48,280	52,584	43,490	49,620	51,137	47,362	47,802	47,067	39,260	50,926	46,955	577,617

1/ Includes Maryland, and Grant, Mineral, and Tucker Counties, West Virginia.
2/ Includes Colfax County, New Mexico.
3/ Includes Arizona and California, but excludes Colfax County, New Mexico. No production was reported for California.
4/ Includes Idaho. No production was reported for Idaho.
5/ Includes Oregon.
6/ For purposes of historical comparison and statistical convenience, figures include output of lignite and of anthracite and semianthracite outside of Pennsylvania.

AVERAGE VALUE

Before the Bituminous Coal Act of 1937 was passed, the most valuable single index of the trend of prices at the mines was the "average value per ton, f.o.b. mines," as given in the familiar annual coal reports of the Bureau of Mines, United States Department of the Interior. This series was referred to in Bureau of Mines reports as representing "bituminous coal," and it covered all coal (other than Pennsylvania anthracite) produced in the United States. It represented the bituminous-coal industry as the term ordinarily was used in the trade and included the lignite of the Dakotas, Texas, and Montana, as well as any small tonnages of hard coal produced outside of Pennsylvania.

With the passage of the Coal Act, the Bureau of Mines relinquished the collection of statistics relating to bituminous coal, effective June 30, 1937, though continuing to compile data regarding lignite and Pennsylvania anthracite. Effective the same date, the Coal Commission became responsible for the compilation of data on bituminous coal, though not attempting to collect data regarding lignite, which was specifically exempted by the Act. The records of the Commission (later the Bituminous Coal Division, United States Department of the Interior) relate to all coal other than Pennsylvania anthracite, Virginia semianthracite, and lignite.

To permit comparison of the old and new series, therefore, it is necessary to separate the lignites from the bituminous coals, though the combined average for the two is continued in a form as nearly comparable as possible to the old series (see table 5).

A more important change in the two series relates to the treatment of selling expenses. The old Bureau of Mines series of "value at the mines" excluded the selling cost. Reporting operators were asked to state the "Amount received at the mines f.o.b. cars less the selling expense." No details were asked regarding the items included in the value, and no systematic effort was made to follow up the exclusion of selling expenses. It was realized at the time that some producers might find it impractical to exclude selling costs and that some part of the selling expenses of the industry might be included in the results. Nevertheless, the reports were checked for consistency from year to year, the questions were retained in the same form without change, and the results are believed to have been comparable from one year to the next. The new series of the Coal Commission represents the total or gross realization on all coal produced and specifically includes the selling cost.

The two sets of data may not be precisely comparable with respect to coal produced but not sold on the commercial market. In the Bureau of Mines series reporting operators were instructed that the "value of coal not sold but used by producer, also mine fuel and coal made into coke, should be estimated at average prices that might have been received." The instructions of the Coal Commission regarding such items were in effect similar, though given in greater detail.

A comparison of the two series is possible for 1936. In that year the average value per ton on the old (Bureau of Mines) basis amounted to $1.761 per ton for bituminous coal, excluding lignite. The average gross realization, according to data collected by the Coal Commission, was $1.831 per ton. The difference amounts to $0.07 per ton - an amount somewhat less than the average selling expenditure computed per ton of all coal produced, as reported to the Coal Commission. The comparison confirms previous indications that the great majority of operators reporting in earlier years had followed instructions and omitted selling expenses in computing the average value but that some of them had included the selling expense. The change in method of reporting should be kept in mind in comparing the two sets of data. As the reports to the Commission were submitted on a detailed accounting return and made under oath, they are to be accepted. The returns of earlier years, upon a voluntary basis and not in all instances uniform as to treatment of selling costs, seem to have been thoroughly comparable from one year to the next and afford the best available index to the rise and fall of the mine prices received by operators down to 1936.

TABLE 5. - TREND OF AVERAGE VALUE IN THE UNITED STATES OF BITUMINOUS COAL AND LIGNITE PER TON, F.O.B. MINES, 1929-45

Year	Bituminous coal (subject to regulation under 1937 Act) 1/	Lignite 2/	Total
Average value per ton less selling cost:			
1929	$ 1.782	$ 1.548	$ 1.781
1930	1.702	1.556	1.701
1931	1.542	1.410	1.541
1932	1.313	1.313	1.313
1933	1.337	1.188	1.336
1934	1.751	1.387	1.749
1935	1.772	1.120	1.767
1936	1.761	1.061	1.756
Average gross realization, selling cost not deducted:			
1936	1.831	3/ 1.061	1.826
1937	1.946	3/ 1.080	1.939
1938	1.955	3/ 1.071	1.947
1939 4/	1.850	1.158	1.845
1940	1.913	3/ 1.156	1.908
1941	2.194	1.237	2.189
1942	2.363	1.364	2.358
1943	2.691	1.490	2.685
1944	2.929	1.487	2.923
1945	3.068	1.553	3.061

1/ Includes all coal produced other than Pennsylvania anthracite and the lignite included in the second column.

2/ North Dakota, South Dakota, and the lignite counties of Montana and Texas.

3/ Figures for 1936-38 and 1940 exclude selling cost as before.

4/ Producers were asked to exclude selling cost in reporting value, but a number of them included such costs.

TABLE 6. - AVERAGE VALUE PER TON, F.O.B. MINES, OF BITUMINOUS COAL AND LIGNITE IN THE UNITED STATES, BY STATES, 1944-1945 1/

State	1944	1945
Alabama	$ 3.97	$ 4.19
Alaska	6.43	6.28
Arizona	2.83	3.50
Arkansas	4.67	5.05
Colorado	3.58	3.69
Georgia	3.81	3.85
Illinois	2.23	2.34
Indiana	2.25	2.32
Iowa	3.50	3.51
Kansas	2.58	2.57
Kentucky	2.93	3.00
Maryland	3.43	3.61
Michigan	5.45	5.47
Missouri	2.58	2.59
Montana (bituminous and lignite)	1.92	1.89
New Mexico	3.79	3.80
North and South Dakota (lignite)	1.50	1.56
Ohio	2.65	2.79
Oklahoma	3.47	3.61
Oregon	6.00	3.99
Pennsylvania	3.15	3.29
Tennessee	3.26	3.43
Texas (lignite)	.87	.85
Utah	3.09	3.41
Virginia	3.23	3.43
Washington	4.83	5.12
West Virginia	3.01	3.20
Wyoming	2.69	2.83
Total	2.92	3.06

1/ Average gross realization, selling cost not deducted.

TABLE 7. - AVERAGE VALUE PER TON, F.O.B. MINES, OF BITUMINOUS COAL AND LIGNITE IN THE UNITED STATES, BY DISTRICTS, 1944-45 1/

(Districts as defined in the Bituminous Coal Act of 1937 and modifications thereto)

Minimum Price Area and Producing District	1944	1945
PRICE AREA 1		
Dist. 1. Eastern Pennsylvania 2/	$ 3.27	$ 3.41
Dist. 2. Western Pennsylvania	3.07	3.21
Dist. 3. Northern West Virginia	2.67	2.88
Dist. 4. Ohio	2.65	2.79
Dist. 5. Michigan	5.45	5.47
Dist. 6. Panhandle	2.76	2.93
Dist. 7. Southern Numbered 1	3.33	3.53
Dist. 8. Southern Numbered 2	3.12	3.27
Total Price Area 1	3.07	3.23
PRICE AREA 2		
Dist. 9. West Kentucky	2.11	2.18
Dist. 10. Illinois	2.23	2.34
Dist. 11. Indiana	2.25	2.32
Dist. 12. Iowa	3.50	3.51
Total Price Area 2	2.24	2.33
PRICE AREA 3		
Dist. 13. Southeastern	3.92	4.14
PRICE AREA 4		
Dist. 14. Arkansas-Oklahoma	4.60	5.01
PRICE AREA 5		
Dist. 15. Southwestern:		
Bituminous	2.75	2.80
Lignite (Texas)	.87	.85
Total Price Area 5	2.73	2.78
PRICE AREA 6		
Dist. 16. Northern Colorado	3.36	3.42
Dist. 17. Southern Colorado 3/	3.63	3.76
Dist. 18. New Mexico 4/	4.55	4.55
Total Price Area 6	3.62	3.70
PRICE AREA 7		
Dist. 19. Wyoming 5/	2.69	2.83
Dist. 20. Utah	3.09	3.41
Total Price Area 7	2.86	3.06
PRICE AREA 8		
Dist. 21. North-South Dakota (lignite)	1.50	1.56
PRICE AREA 9		
Dist. 22. Montana (bituminous and lignite)	1.92	1.89
PRICE AREA 10		
Dist. 23. Washington 6/	4.83	5.11
Alaska	6.43	6.28
Total Price Area 10	5.13	5.31
Grand total 7/	2.92	3.06

1/ Average gross realization, selling cost not deducted.
2/ Includes Maryland, and Grant, Mineral, and Tucker counties, West Virginia.
3/ Includes Colfax County, New Mexico.
4/ Includes Arizona and California, but excludes Colfax County, New Mexico. No production was reported for California.
5/ Includes Idaho. No production was reported for Idaho.
6/ Includes Oregon.
7/ For purposes of historical comparison and statistical convenience, the figures include the output of lignite and of anthracite and semianthracite outside of Pennsylvania.

TABLE 8. - CONSUMPTION OF BITUMINOUS COAL AND LIGNITE, BY CONSUMER CLASS, WITH RETAIL DELIVERIES IN THE UNITED STATES, 1936-45, IN THOUSANDS OF NET TONS

Year	Colliery fuel	Electric power utilities 1/	Bunker foreign trade 2/	Railroads (Class 1) 3/	Coke		Steel and rolling mills	Coal-gas retorts	Cement mills 4/	Other industrials 5/	Retail dealer deliveries 5/	Total of classes shown
					Beehive ovens	Byproduct ovens						
1936	3,227	40,029	1,622	86,391	2,698	63,244	13,471	1,945	4,771	108,620	84,200	410,218
1937	3,052	42,871	1,832	88,080	4,927	69,575	12,853	1,680	5,247	122,410	80,076	432,603
1938	2,493	38,245	1,352	73,921	1,360	45,266	8,412	1,644	4,483	92,390	68,520	338,086
1939	2,565	43,979	1,477	79,072	2,298	61,216	9,808	1,614	5,274	98,900	71,570	377,773
1940	2,443	50,973	1,426	85,130	4,803	76,583	10,040	1,746	5,633	106,280	87,700	432,757
1941	2,489	61,861	1,643	97,384	10,529	82,609	10,902	1,659	6,832	120,720	97,460	494,088
1942	2,708	65,636	1,585	115,410	12,876	87,974	10,434	1,721	7,570	131,550	104,750	542,214
1943	2,702	76,403	1,647	130,283	12,441	90,019	11,238	1,605	5,851	141,211	122,764	596,164
1944	2,712	78,887	1,559	132,049	10,858	94,438	10,734	1,545	3,789	130,353	124,906	591,830
1945	2,442	71,603	1,785	125,120	8,135	87,214	10,084	(6)	4,215	127,164	121,805	559,567

1/ Geological Survey and Federal Power Commission. Represents bituminous coal and lignite consumed by public utility power plants in power generation, including a small quantity of coke amounting to approximately 100,000 tons annually.

2/ U. S. Bureau of Census.

3/ Association of American Railroads. Represents consumption of bituminous coal and lignite by class I railways for all uses, including locomotive, powerhouse, shop, and station fuel. The Interstate Commerce Commission reports that in 1945 consumption for all uses by class 1 line-haul railways, plus purchases for class II and class III railways, plus purchases by all switching and terminal companies combined, was 129,315,950 tons of bituminous coal and lignite.

4/ Includes a small amount of anthracite.

5/ Estimates based upon reports collected by the Solid Fuels Administration for War from a selected list of representative manufacturing plants and retail dealers.

6/ Included in "Other industrials."

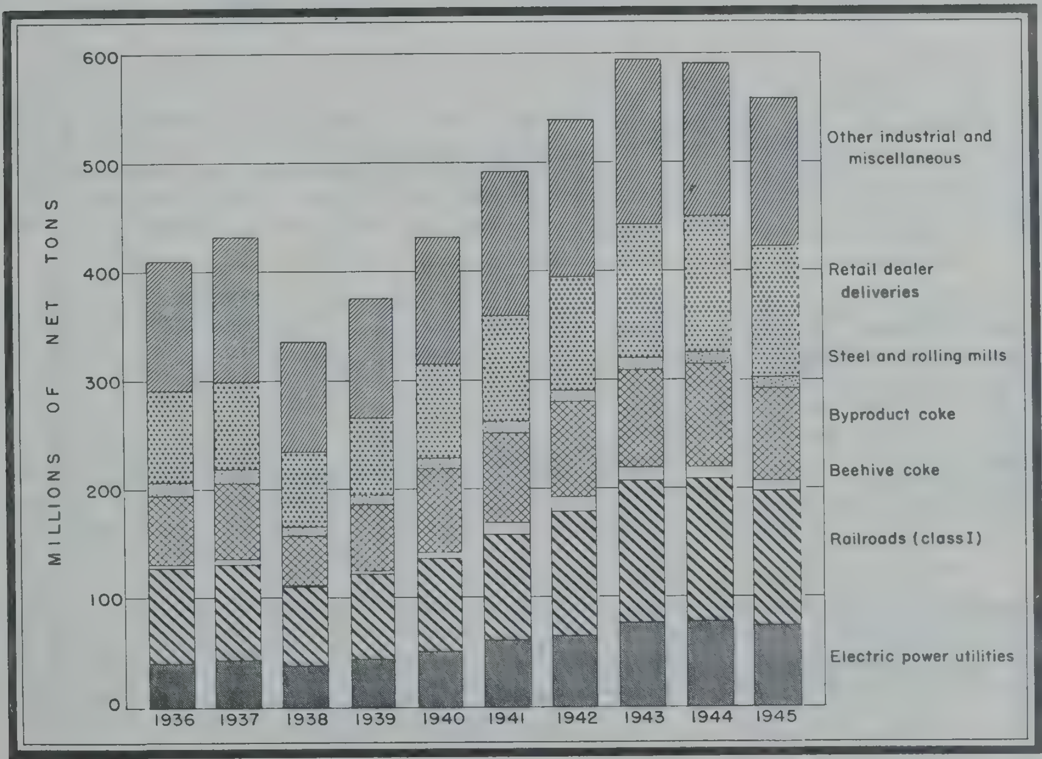

Figure 5. - Consumption of bituminous coal and lignite, by consumer class, with retail deliveries in the United States, 1936-45.

TABLE 9. - INDICATORS OF EFFECT OF FUEL ECONOMY ON CONSUMPTION OF COAL IN THE UNITED STATES PER UNIT OF PERFORMANCE SINCE THE WORLD WAR OF 1914-18

	Pounds	Reduction from base period (percent)
Steam railroads:		
Pounds per 1,000 gross ton-miles freight service:		
Average:		
1919-20	170	---
1944	114	32.9
1945	115	32.4
Pounds per passenger-train car-mile:		
Average:		
1919-20	18.5	---
1944	14.8	20.0
1945	15.0	18.9
Electric public-utility power plants:		
Pounds per kilowatt-hour:		
1919	3.2	---
1944	1.3	59.4
1945	1.3	59.4
Iron and steel-pounds coking coal per net ton of pig: 1/		
1918	3,194	---
1944	2,618	18.0
1945	2,656	16.8
Coke manufacture: Savings of heat values through recovery of gas, tar, light oils, and breeze by extension of byproduct in place of beehive coking, 1913-14, expressed as percent of coal used for all coke in 1945 2/	---	18.6

1/ Includes only savings through higher yields of merchantable coke per ton of coal charged and lower consumption of coke per ton of iron. Excludes economies through recovery of byproducts, which are covered in next item.

2/ These byproducts are used in part for boiler fuel, in part for metallurgical purposes, in part for domestic heating and coking, and to a small extent for automotive fuel.

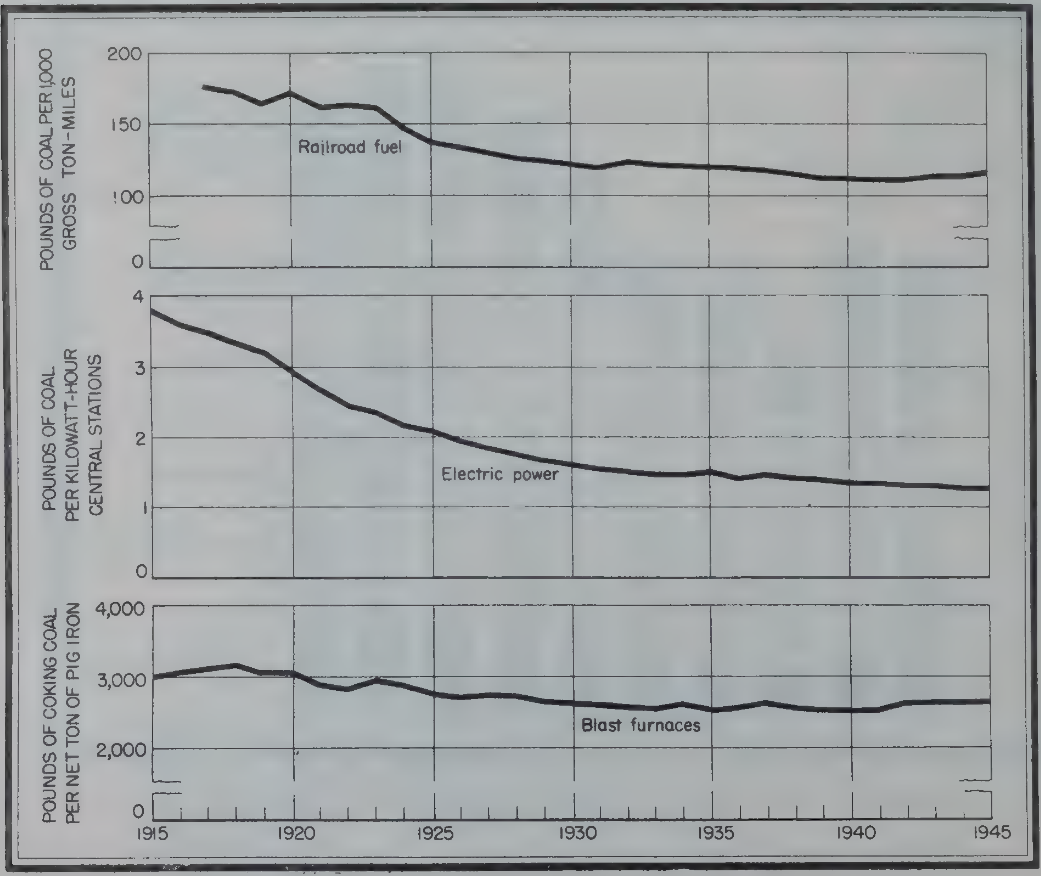

Figure 6. - Trends in fuel efficiency in the United States, 1915-45.

RELATIVE RATE OF GROWTH OF COAL, OIL, AND WATER POWER, 1889-1945

The total supply of available energy in the form of coal, oil, natural gas, and water power in 1945 was 35,842 trillion B.t.u. - a 1.3 percent decrease from 1944 (see fig. 7).

The figures are expressed in British thermal units because some common denominator is necessary for such unlike quantities as tons of coal, barrels of oil, and cubic feet of gas. Table 10 summarizes the equivalent of each of the fuels in trillions of British thermal units. Water power is represented by the equivalent fuel required to perform the same work. The table covers the years since 1936. Details for 1889 to 1935 are given in Minerals Yearbook, 1937, page 807.

In converting water power to its fuel equivalent, two alternative assumptions have been made. The first, as in previous issues of these tables, assumes a constant fuel equivalent of 4.02 pounds of coal for each kilowatt-hour of water power produced throughout the entire period from 1889 to 1945. This factor was selected because it represents, in round numbers, the average efficiency of all central stations generating steam-electric power in 1913, the base period used. The usefulness of the constant factor lies in showing the rate at which water power is being developed. It permits direct comparison between the relative increase (in kilowatt-hours of water power) and the corresponding increase or decrease (in tons of coal, barrels of oil, or cubic feet of gas produced). On the other hand the constant factor makes no allowance for the fact that coal and other fuels produced today are used more efficiently than formerly.

To show the influence of improving fuel efficiency, a second computation of the energy equivalent of water power has therefore been made. This assumes a prevailing fuel equivalent, diminishing year by year, which represents the average performance of all fuel-burning central electric stations for the year in question. This average has declined from about 7.05 pounds of coal per kilowatt-hour in 1899 to 1.30 pounds in 1945. (The prevailing factor is thus much above the constant factor in 1899 and much below it in 1945.) The prevailing fuel equivalent indicates more nearly the quantity of fuel that would have been needed in any one year to generate the same power in a steam-electric station. It should be noted, however, that the ultimate uses to which the water power generated is put often displace fuel burned much less efficiently than in central stations and that in any instance no other important branch of fuel consumption has made advances in fuel efficiency approaching that of the central stations.

As these tables attempt to determine the total energy from all fuels and from water power, the ideal factor for converting water power into fuel equivalent would be the average efficiency of all forms of fuel consumption in each year. No basis for determining such an all-embracing average exists at present, but enough is known to make certain that it would show much less reduction from 1899 to 1945 than do the central stations. For the present, a just comparison of the changing contributions of water power and of fuel to the national energy supply would lie somewhere between the results shown by the constant equivalent and the prevailing central-station equivalent in these tables.

As in earlier issues of these tables, the figures for oil and natural gas represent the entire production of crude petroleum and of gas. Most of this production does not come into direct competition with coal. Much of the supply of both oil and gas is used in regions of the country, such as California and portions of the Southwest, where coal is available only at unusually high cost because of heavy transport charges. Nearly half of the natural gas is used in the field for drilling or operating oil and gas wells and pipe lines or for the manufacture of carbon black. More than half the oil is used in the form of gasoline, kerosine, and lubricants, for which purposes coal cannot well compete, except at very much higher levels of oil prices. Even these refined products, however, involve a certain measure of indirect competition with coal, for the energy market of the country is becoming more fluid and competitive, and a demand that cannot be met by one source of supply tends to fall back on the others.

The subject of interfuel competition is exceedingly complex, and an elaborate analysis and the accumulation of data not now available would be required to determine even approximately how much of any one fuel actually has been displaced either by other fuels or by water power. The present tables do not permit determination of such displacement; their purpose is rather to measure the long-time trends in the total demand for energy.

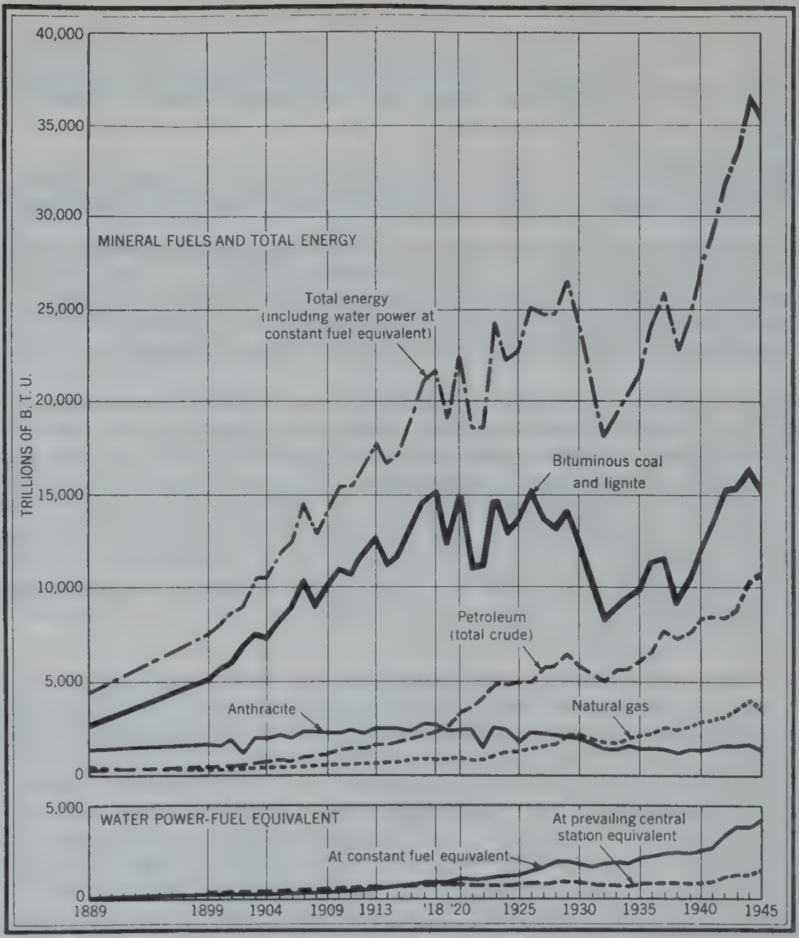

Figure 7. - Annual supply of energy from mineral fuels and water power in the United States, 1889-1945.

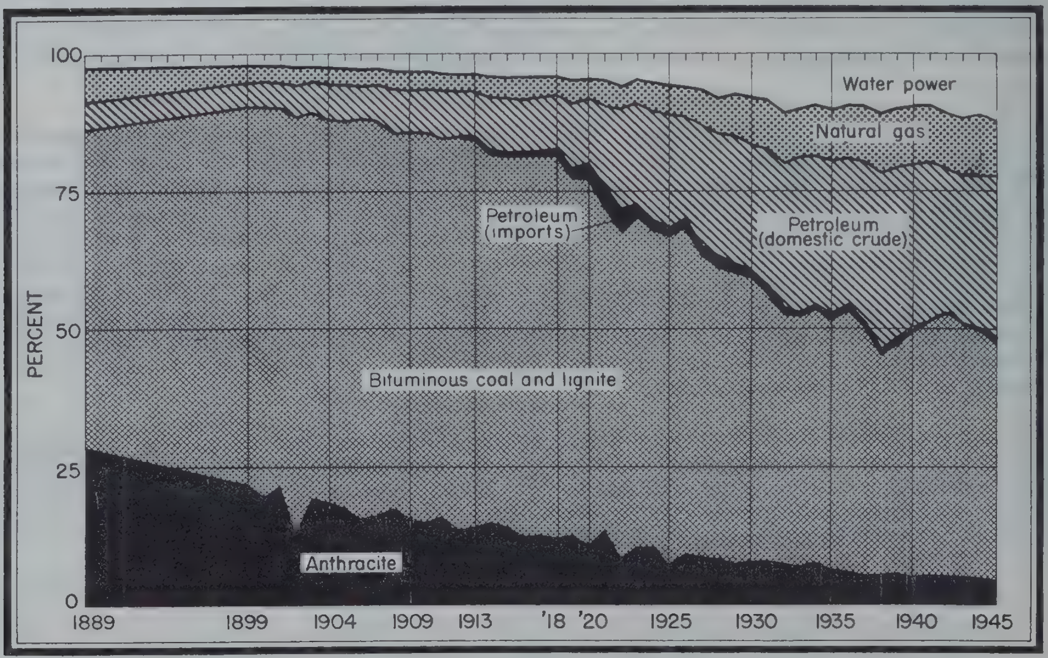

Figure 8. - Percentage of total B.t.u. equivalent contributed by the several sources of energy in the United States, counting water power at constant fuel equivalent, 1889-1945. If water power is counted at the prevailing fuel equivalent of central stations in each year, its proportion is 3.2 percent in 1899 and 4.3 percent in 1945, and the proportions of the other sources of energy are affected accordingly.

TABLE 10. - ANNUAL SUPPLY OF ENERGY FROM MINERAL FUELS AND WATER POWER IN THE UNITED STATES, 1936-45 1/, IN TRILLIONS OF B.T.U. 2/

Year	Pennsylvania anthracite	Bituminous coal and lignite	Total coal	Petroleum (total crude, including that refined)		Natural gas (total production)	Total petroleum and natural gas	Total mineral fuels	Water power (fuel equivalent)		Grand total energy	
				Domestic production	Imports				At constant fuel equivalent 3/	At prevailing central station equivalent 4/	Water power at constant fuel equivalent	Water power at prevailing central station equivalent
1936	1,485	11,504	12,989	6,598	194	2,330	9,122	22,111	2,256	812	24,367	22,923
1937	1,410	11,673	13,083	7,675	165	2,588	10,428	23,511	2,446	871	25,957	24,382
1938	1,255	9,132	10,387	7,286	158	2,468	9,912	20,299	2,466	866	22,765	21,165
1939	1,400	10,345	11,745	7,590	199	2,663	10,452	22,197	2,423	838	24,620	23,035
1940	1,400	12,072	13,472	8,119	256	2,860	11,235	24,707	2,620	880	27,327	25,587
1941	1,533	13,471	15,004	8,413	304	3,024	11,741	26,745	2,804	934	29,549	27,679
1942	1,641	15,267	16,908	8,320	74	3,282	11,676	28,584	3,485	1,136	32,069	29,720
1943	1,650	15,463	17,113	9,034	83	3,671	12,788	29,901	3,999	1,304	33,900	31,205
1944	1,733	16,233	17,966	10,067	269	3,989	14,325	32,291	4,029	1,301	36,320	33,592
1945 5/	1,494	15,134	16,628	10,267	445	4,166	14,878	31,506	4,336	1,401	35,842	32,907

1/ Comparable data for earlier years in Minerals Yearbook, 1937, p. 807.

2/ The unit heat values employed are: Anthracite, 13,600 B.t.u. per pound; bituminous coal and lignite, 13,100 B.t.u. per pound; petroleum, 6,000,000 B.t.u. per barrel; natural gas, 1,075 B.t.u. per cubic foot. Water power includes installations owned by manufacturing plants and mines, as well as Government and privately-owned public utilities. The fuel equivalent of water power is calculated from the kilowatt-hours of power produced wherever available, as is true of all public-utility plants since 1919. Otherwise, the fuel equivalent is calculated from the reported horsepower of installed water wheels, assuming a capacity factor of 20 percent for manufacturers and mines and of 40 percent for public utilities.

3/ Assuming 4.02 pounds per kilowatt-hour, which is the average of central electric station practice in 1913, the base period used.

4/ Assuming the average central-station practice for each of the years for which data are available, which declined from about 7.05 pounds per kilowatt-hour in 1899 to 1.30 pounds in 1945.

5/ Subject to revision.

TABLE 11. - INDEX NUMBERS FOR RELATIVE RATE OF GROWTH OF COAL, OIL, AND WATER POWER IN THE UNITED STATES, 1936-45 1/

(The figures are expressed as percentage of the 1918 rate)

Year	Pennsylvania anthracite	Bituminous coal and lignite	Total coal	Petroleum (total crude)		Natural gas (total production)	Total petroleum and natural gas	Total mineral fuels	Water power (at constant fuel equivalent)	Grand total	
				Domestic production	Imports					With water power at constant fuel equivalent	With water power at prevailing central station equivalent
1936	55	76	73	309	86	301	291	105	270	112	106
1937	52	77	73	359	73	334	332	112	292	119	112
1938	47	60	58	341	70	318	316	97	295	104	98
1939	52	68	66	355	88	344	333	106	289	113	106
1940	52	80	75	380	113	369	358	118	313	125	118
1941	57	89	84	394	135	390	374	127	335	135	128
1942	61	101	95	390	33	423	372	136	416	147	137
1943	61	102	96	423	37	474	408	142	478	155	144
1944	64	107	101	471	119	515	457	154	481	166	155
1945 2/ .	56	100	93	481	197	538	474	150	518	164	152

1/ Comparable data for earlier years in Minerals Yearbook, 1937, p. 809.

2/ Subject to revision.

TABLE 12. - PERCENTAGE OF TOTAL B.T.U. EQUIVALENT CONTRIBUTED BY THE SEVERAL MINERAL FUELS AND WATER POWER IN THE UNITED STATES, 1936-45 1/

Year	Pennsylvania anthracite	Bituminous coal and lignite	Total coal	Petroleum (total crude)		Natural gas (total production)	Total petroleum and natural gas	Total mineral fuels	Water power, fuel equivalent	Grand total, including water power
				Domestic production	Imports					
	Water power counted at constant fuel equivalent of approximately 4 lb. per kilowatt-hour									
1936	6.1	47.2	53.3	27.1	0.8	9.5	37.4	90.7	9.3	100.0
1937	5.4	45.0	50.4	29.6	.6	10.0	40.2	90.6	9.4	100.0
1938	5.5	40.1	45.6	32.0	.7	10.8	43.5	89.1	10.9	100.0
1939	5.7	42.0	47.7	30.8	.8	10.8	42.4	90.1	9.9	100.0
1940	5.1	44.2	49.3	29.7	.9	10.5	41.1	90.4	9.6	100.0
1941	5.2	45.6	50.8	28.5	1.0	10.2	39.7	90.5	9.5	100.0
1942	5.1	47.6	52.7	26.0	.2	10.2	36.4	89.1	10.9	100.0
1943	4.9	45.6	50.5	26.7	.2	10.8	37.7	88.2	11.8	100.0
1944	4.8	44.7	49.5	27.7	.7	11.0	39.4	88.9	11.1	100.0
1945 2/	4.2	42.2	46.4	28.7	1.2	11.6	41.5	87.9	12.1	100.0
	Water power counted at prevailing central-station equivalent for year									
1936	6.5	50.2	56.7	28.8	0.8	10.2	39.8	96.5	3.5	100.0
1937	5.8	47.8	53.6	31.5	.7	10.6	42.8	96.4	3.6	100.0
1938	5.9	43.2	49.1	34.4	.7	11.7	46.8	95.9	4.1	100.0
1939	6.1	44.9	51.0	32.9	.9	11.6	45.4	96.4	3.6	100.0
1940	5.5	47.2	52.7	31.7	1.0	11.2	43.9	96.6	3.4	100.0
1941	5.5	48.7	54.2	30.4	1.1	10.9	42.4	96.6	3.4	100.0
1942	5.5	51.4	56.9	28.0	.2	11.1	39.3	96.2	3.8	100.0
1943	5.3	49.5	54.8	28.9	.3	11.8	41.0	95.8	4.2	100.0
1944	5.2	48.3	53.5	29.9	.8	11.9	42.6	96.1	3.9	100.0
1945 2/	4.5	46.0	50.5	31.2	1.3	12.7	45.2	95.7	4.3	100.0

1/ Comparable data for earlier years in Minerals Yearbook, 1937, p. 810.
2/ Subject to revision. Percentages based upon figures in table 10.

TABLE 13. - TRENDS IN DISTRIBUTION OF BITUMINOUS COAL AND LIGNITE IN THE UNITED STATES, 1939-45

(For details and sources of data, see Monthly Report on Distribution of Coal Shipments. Tonnage figures shown in thousands of net tons)

	1939		1940		1941		1942		1943		1944		1945	
	M net tons	Percent	M net tons	Percent	M net tons	Percent	M net tons	Percent	M net tons	Percent	M net tons	Percent	M net tons	Percent
NEW ENGLAND RECEIPTS:														
Via rail across the Hudson	4,626	—	4,892	—	6,385	—	9,894	—	10,365	—	9,571	—	7,872	—
TIDEWATER LOADINGS:														
By ports:														
At New York and Philadelphia	9,404	28.9	10,148	28.6	11,974	31.8	20,666	54.0	24,588	62.4	23,118	52.2	21,567	46.1
At Baltimore, Hampton Roads, and Charleston	23,083	71.1	25,291	71.4	25,647	68.2	17,598	46.0	14,840	37.6	21,134	47.8	25,188	53.9
Total	32,487	100.0	35,439	100.0	37,621	100.0	38,264	100.0	39,428	100.0	44,252	100.0	46,755	100.0
By fields of origin:														
From Pennsylvania and Northern West Virginia	12,165	37.4	12,987	36.6	15,217	40.4	19,304	50.4	19,209	48.7	22,531	50.9	24,015	51.4
From Southern Low Volatile fields	16,012	49.3	17,707	50.0	17,560	46.7	16,196	42.3	18,243	46.3	18,177	41.1	16,553	35.4
From Southern High Volatile fields	4,310	13.3	4,745	13.4	4,844	12.9	2,764	7.3	1,976	5.0	3,544	8.0	6,187	13.2
Total	32,487	100.0	35,439	100.0	37,621	100.0	38,264	100.0	39,428	100.0	44,252	100.0	46,755	100.0
By destinations:														
To New England	11,612	35.7	12,416	35.1	13,429	35.7	11,727	30.6	12,625	32.0	14,013	31.7	13,118	28.1
Foreign	1,691	5.2	2,989	8.4	2,577	6.8	1,597	4.2	1,505	3.8	2,423	5.5	8,603	18.4
Bunkers	1,453	4.5	1,428	4.0	1,465	3.9	1,270	3.3	1,131	2.9	1,133	2.5	1,360	2.9
Inside Capes and other tonnage	17,731	54.6	18,606	52.5	20,150	53.6	23,670	61.9	24,167	61.3	26,683	60.3	23,674	50.6
Total	32,487	100.0	35,439	100.0	37,621	100.0	38,264	100.0	39,428	100.0	44,252	100.0	46,755	100.0
LAKE ERIE LOADINGS (Cargo and Fuel):														
By fields of origin:														
From Ohio	2,356	5.7	2,646	5.5	3,947	7.7	4,171	8.5	4,682	9.9	4,995	9.0	4,322	8.4
From Pittsburgh and other Pennsylvania	9,259	22.5	11,578	24.1	11,612	22.6	9,305	18.8	8,409	17.7	10,568	19.0	9,601	18.7
From Moundsville, Fairmont, and Cumberland-Piedmont	1,963	4.8	2,357	4.9	2,963	5.8	2,778	5.6	2,763	5.8	3,678	6.6	3,645	7.1
From Southern West Virginia:														
High volatile	10,883	26.5	12,025	25.0	14,277	27.8	14,746	29.8	14,256	30.1	13,902	25.1	12,281	24.0
Low volatile	8,665	21.1	10,372	21.6	9,010	17.5	9,160	18.5	8,653	18.2	10,797	19.5	10,021	19.5
From East Kentucky, Tennessee, and Virginia	7,998	19.4	9,133	18.9	9,585	18.6	9,295	18.8	8,692	18.3	11,551	20.8	11,438	22.3
Total	41,124	100.0	48,111	100.0	51,394	100.0	49,455	100.0	47,455	100.0	55,491	100.0	51,308	100.0
By destinations (cargo only):														
To American points	33,188	83.3	37,804	81.2	38,823	78.1	36,267	75.9	34,146	74.1	41,773	77.4	39,061	78.3
To Canadian points	6,672	16.7	8,778	18.8	10,886	21.9	11,544	24.1	11,939	25.9	12,210	22.6	10,836	21.7
Total	39,860	100.0	46,582	100.0	49,709	100.0	47,811	100.0	46,085	100.0	53,983	100.0	49,897	100.0
ACROSS LAKE MICHIGAN CAR FERRY	592	—	612	—	627	—	740	—	769	—	645	—	522	—
WEST-BOUND RAIL TO MISSISSIPPI VALLEY (revenue all-rail shipments, excluding railroad fuel, Lake coal, and movements to Kentucky points):														
From Ohio fields	9,052	8.4	9,807	8.0	10,846	7.9	11,719	7.4	12,679	7.6	14,289	8.3	14,991	9.4
From Pennsylvania fields	12,200	11.4	15,195	12.4	16,663	12.1	18,141	11.5	18,189	11.0	19,175	11.2	17,184	10.8
From Northern West Virginia and Cumberland-Piedmont	3,227	3.0	3,467	2.8	4,728	3.4	5,201	3.3	6,268	3.8	7,728	4.5	7,236	4.6
From Southern West Virginia:														
High volatile	15,099	14.0	16,943	13.8	18,275	13.3	21,500	13.6	22,739	13.6	22,222	13.0	19,205	12.1
Low volatile	15,946	14.8	19,536	15.9	22,773	16.6	25,005	15.9	24,477	14.7	21,717	12.7	18,919	11.9
From East Kentucky, Tennessee, and Virginia	15,749	14.7	18,340	14.9	18,980	13.8	22,770	14.4	23,010	13.8	20,921	12.2	18,350	11.5
Total from Appalachian fields	71,273	66.3	83,288	67.8	92,265	67.1	104,336	66.1	107,362	64.5	106,052	61.9	95,885	60.3
From Illinois	24,879	23.1	27,618	22.5	30,100	21.9	36,992	23.4	42,326	25.4	46,240	27.0	44,125	27.7
From Indiana	9,455	8.8	10,223	8.3	12,499	9.0	14,031	8.9	13,680	8.2	15,571	9.1	14,730	9.3
From West Kentucky	1,917	1.8	1,758	1.4	2,735	2.0	2,556	1.6	3,195	1.9	3,408	2.0	4,238	2.7
Total from Middle West fields	36,251	33.7	39,599	32.2	45,334	32.9	53,579	33.9	59,201	35.5	65,219	38.1	63,093	39.7
Grand total	107,524	100.0	122,887	100.0	137,599	100.0	157,915	100.0	166,563	100.0	171,271	100.0	158,978	100.0
TOTAL SHIPMENTS FROM OTHER GROUPS (all shipments, including, in this case, nonrevenue railroad fuel): 1/														
From Michigan fields	122	(2)(3)	103	(2)(3)	120	(2)(3)	71	(2)(3)	57	(2)(3)	58	(2)(3)	50	(2)(3)
From upper Lake commercial docks, all deliveries	11,111	2/ 2.8	12,054	2/ 2.6	12,473	2/ 2.4	14,036	2/ 2.4	15,867	2/ 2.7	14,165	2/ 2.3	14,678	2/ 2.5
From Iowa, Missouri, Kansas	6,088	2/ 1.5	6,411	2/ 1.4	6,731	2/ 1.3	7,361	2/ 1.3	7,494	2/ 1.3	7,882	2/ 1.3	7,081	2/ 1.2
From Arkansas, Oklahoma, Texas	2,946	2/ .7	3,394	2/ .7	3,411	2/ .7	4,348	2/ .7	4,429	2/ .8	5,012	2/ .8	4,583	2/ .8
From Far West fields	18,442	2/ 4.7	19,658	2/ 4.3	22,009	2/ 4.3	27,154	2/ 4.7	30,692	2/ 5.2	31,402	2/ 5.1	30,358	2/ 5.3
From Alabama field	11,233	2/ 2.8	14,288	2/ 3.1	14,310	2/ 3.1	17,525	2/ 3.0	15,705	2/ 2.7	17,153	2/ 2.8	16,399	2/ 2.8

1/ Excluding commercial sales by truck and wagon, except from upper Lake docks.
2/ Percent of total national production from all mines, all destinations.
3/ Less than 0.1 percent.

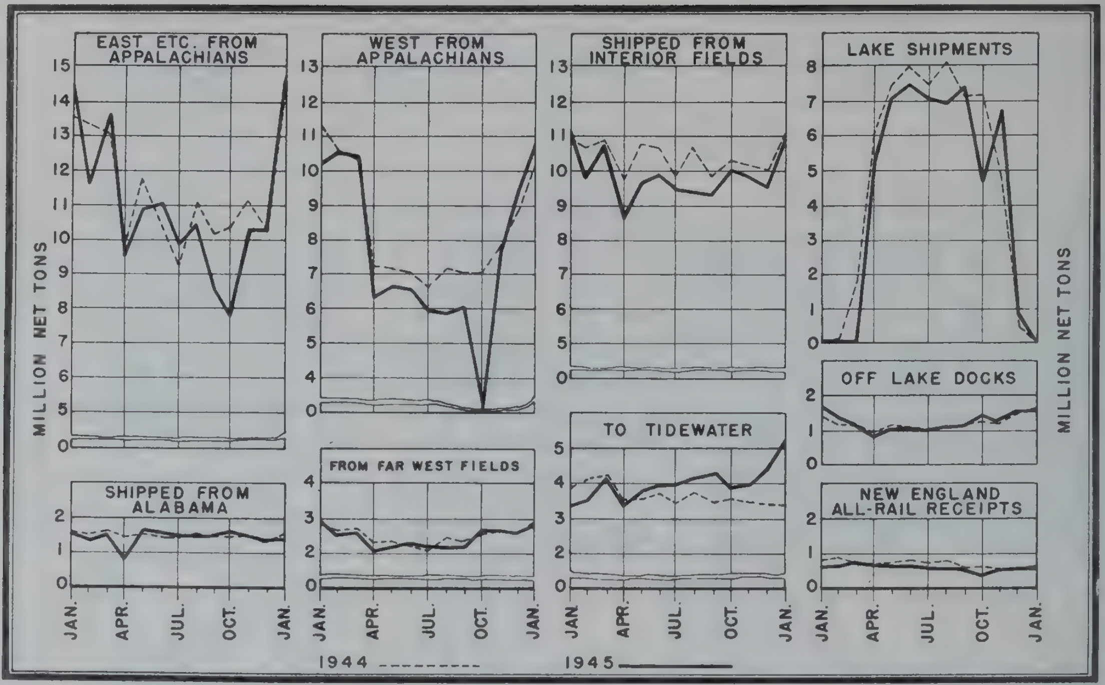

Figure 9. - Monthly movement of bituminous coal and lignite in the United States in the major channels of distribution, 1944-45.

STOCKS HELD BY CONSUMERS

TABLE 14. - STOCKS OF BITUMINOUS COAL AND LIGNITE IN HANDS OF COMMERCIAL CONSUMERS AND IN RETAIL DEALERS' YARDS IN THE UNITED STATES, 1944-45

Date	Total stock (net tons)	Days' supply at current rate of consumption on date of stock taking								
		Byproduct coke plants	Steel plants	Other industrials	Coal-gas plants	Electric utilities	Retail yards	Railroads	Cement mills	Total
1944										
January 1	56,686,000	25	22	43	60	61	12	25	42	30
February 1	53,628,000	24	23	42	54	59	12	24	54	30
March 1	52,720,000	24	22	38	47	60	13	24	52	29
April	51,835,000	24	23	38	45	66	12	25	55	30
May 1	50,513,000	22	26	40	44	79	11	27	56	32
June 1	55,293,000	22	28	51	50	83	19	34	50	39
July 1	59,680,000	24	30	56	55	80	21	39	47	42
August 1	61,413,000	22	32	64	57	82	23	42	50	44
September 1	63,909,000	23	29	62	64	77	18	43	47	43
October 1	64,905,000	24	29	59	62	80	18	44	49	43
November 1	65,074,000	25	28	52	59	82	17	42	50	41
December 1	64,020,000	26	26	44	61	78	17	40	49	39
December 31	57,204,000	24	21	38	55	72	11	34	47	32
1945										
January 1	57,204,000	24	21	38	55	72	11	34	47	32
February 1	49,464,000	22	19	31	46	61	6	29	52	26
March 1	45,773,000	22	20	29	40	58	6	27	51	24
April 1	45,495,000	21	24	33	39	63	9	27	52	27
May 1	43,793,000	18	24	35	39	63	15	27	44	30
June 1	44,020,000	17	25	36	44	65	14	27	45	30
July 1	47,715,000	21	28	41	50	69	18	29	46	33
August 1	49,906,000	19	27	51	(1)	73	21	31	46	37
September 1	51,141,000	19	30	53	(1)	76	20	33	43	38
October 1	53,350,000	19	33	56	(1)	88	20	35	45	41
November 1	48,015,000	20	21	44	(1)	84	15	32	41	36
December 1	48,919,000	20	22	39	(1)	83	13	31	42	33
December 31	45,665,000	20	20	32	(1)	78	8	25	43	27

1/ Included in "Other industrials."

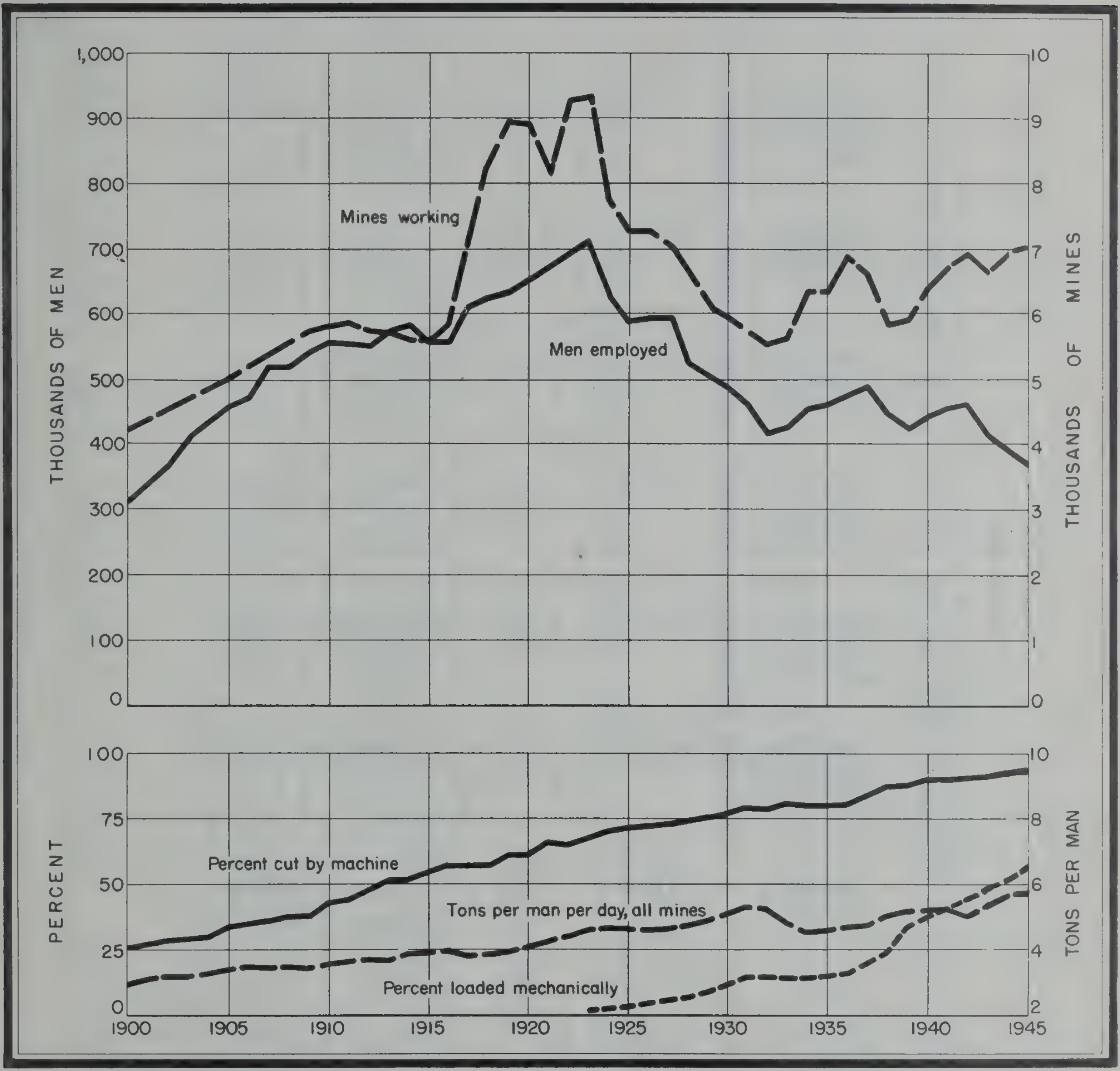

Figure 10. - Trends of employment, mechanization, and output per man at bituminous-coal and lignite mines in the United States, 1900-45.

TABLE 15. - SALIENT TRENDS IN BITUMINOUS-COAL AND LIGNITE-MINING INDUSTRY IN THE UNITED STATES, 1938-45

	1938	1939	1940	1941	1942	1943	1944	1945
Production:								
Loaded at mine for shipment by rail......net tons..	295,336,027	331,189,620	380,387,674	425,184,319	482,814,042	495,863,581	527,135,489	490,471,988
Loaded at mine for shipment by water......do.....	16,902,969	22,229,364	29,493,058	30,240,489	34,018,025	30,188,093	31,518,334	27,547,679
Shipped by truck or wagon......do.....	25,592,058	29,533,824	35,540,476	40,055,638	45,154,432	42,432,667	40,123,023	41,477,428
Taken by locomotive tenders at tipple......do.....	606,857	826,556	939,058	1,099,582	920,213	779,154	807,679	694,555
Shipped by conveyor or tram to point of consumption......do.....	4,221,671	4,317,465	5,887,994	6,067,697	7,121,116	7,476,717	7,206,392	6,416,327
Used by mine employees......do.....	2,032,289	1,901,408	2,035,201	1,872,026	2,180,077	2,549,775	2,545,343	2,660,039
Used at mines for power and heat......do.....	2,493,017	2,565,276	2,442,989	2,488,950	2,708,312	2,701,828	2,713,073	2,442,398
Made into beehive coke at mines......do.....	1,359,876	2,089,475	4,045,050	7,140,544	7,776,720	8,185,254	7,526,907	5,906,913
Total production......do.....	348,544,764	1/ 394,855,325	460,771,500	514,149,245	582,692,937	590,177,069	619,576,240	577,617,327
Number of active mines of commercial size:								
Class 1 (200,000 tons or more)......number...	526	577	636	730	811	855	828	753
Class 2 (100,000 to 200,000 tons)......do.....	402	404	432	437	484	464	559	591
Class 3 (50,000 to 100,000 tons)......do.....	415	387	371	402	445	481	540	629
Class 4 (10,000 to 50,000 tons)......do.....	1,042	1,065	1,157	1,305	1,492	1,544	1,776	1,920
Class 5 (1,000 to 10,000 tons)......do.....	3,392	3,387	3,728	3,948	3,740	3,276	3,225	3,140
Total number over 1,000 tons......do.....	5,777	5,820	6,324	6,822	6,972	6,620	6,928	7,033
Average number of men employed at mines active:								
Underground......men.....	370,004	353,476	365,013	376,765	374,654	326,763	301,461	290,001
Surface:								
In strip pits......do.....	7,877	8,791	8,983	10,861	12,893	16,643	21,035	23,261
All others......do.....	63,452	59,521	65,079	69,355	74,444	72,601	70,851	69,838
Total......do.....	441,333	421,788	439,075	456,981	461,991	416,007	393,347	383,100
Average number of days mines operated......days....	162	178	202	216	246	264	278	261
Capacity of active mines with existing labor force:								
Per year of 308 days......net tons..	663,000,000	683,000,000	703,000,000	733,000,000	730,000,000	689,000,000	686,000,000	682,000,000
Per year of 280 days......do.....	602,000,000	621,000,000	639,000,000	666,000,000	663,000,000	626,000,000	624,000,000	620,000,000
Per year of 261 days......do.....	562,000,000	579,000,000	595,000,000	621,000,000	618,000,000	583,000,000	582,000,000	578,000,000
Output per man per day......do.....	4.89	5.25	5.19	5.20	5.12	5.38	5.67	5.78
Output per man per year......do.....	790	936	1,049	1,125	1,261	1,419	1,575	1,508
Underground output cut by machine......do.....	278,315,365	313,969,394	369,227,277	408,510,296	462,344,719	461,051,743	469,458,349	424,726,432
Percent of underground output cut by machine......percent...	87.5	87.9	88.4	89.0	89.7	90.3	90.5	90.8
Underground output mechanically loaded......net tons..	85,092,836	110,711,970	147,870,252	186,667,250	232,902,920	249,805,214	274,189,132	262,512,729
Percent of underground output mechanically loaded......percent...	26.7	31.0	35.4	40.7	45.2	48.9	52.9	56.1
Quantity mined by stripping......net tons..	30,406,855	37,722,583	43,167,336	55,071,609	67,202,663	79,685,175	100,898,376	109,986,865
Percent mined by stripping......percent...	8.7	9.6	9.4	10.7	11.5	13.5	16.3	19.0
Quantity cleaned by wet or pneumatic process 2/......net tons..	63,454,588	79,429,426	102,269,753	117,539,524	142,187,346	145,575,849	158,727,129	147,885,936
Percent cleaned by wet or pneumatic process 2/......percent...	18.2	20.1	22.2	22.9	24.4	24.7	25.6	25.6

1/ Includes 202,337 tons of coal reported as net changes in stocks at mines, January 1, 1939 to January 1, 1940.
2/ Includes central washeries operated by consumers.

TABLE 16. - GROWTH OF THE BITUMINOUS-COAL AND LIGNITE-MINING INDUSTRY IN THE UNITED STATES, 1890-1945

Year	Production (net tons)	Value		Men employed	Number of mines	Calculated capacity (millions of net tons)—		
		Total 1/	Average per ton 1/			At 308 days	At 280 days	At 261 days
1890	111,302,322	$ 110,420,801	$ 0.99	192,204	(2)	152	137	129
1891	117,901,238	117,188,400	.99	205,803	(2)	163	148	138
1892	126,856,567	125,124,381	.99	212,893	(2)	178	162	151
1893	128,385,231	122,751,618	.96	230,365	(2)	194	174	164
1894	118,820,405	107,653,501	.91	244,603	(2)	214	196	181
1895	135,118,193	115,779,771	.86	239,962	2,555	215	196	182
1896	137,640,276	114,891,515	.83	244,171	2,599	221	202	187
1897	147,617,519	119,595,224	.81	247,817	2,454	232	213	197
1898	166,593,623	132,608,713	.80	255,717	2,862	243	221	206
1899	193,323,187	167,952,104	.87	271,027	3,245	254	230	216
1900	212,316,112	220,930,313	1.04	304,375	(2)	279	255	237
1901	225,828,149	236,422,049	1.05	340,235	(2)	309	281	262
1902	260,216,844	290,858,483	1.12	370,056	(2)	348	316	295
1903	282,749,348	351,687,933	1.24	415,777	(2)	387	350	328
1904	278,659,689	305,397,001	1.10	437,832	4,650	425	386	360
1905	315,062,785	334,658,294	1.06	460,629	5,060	460	417	390
1906	342,874,867	381,162,115	1.11	478,425	4,430	496	451	420
1907	394,759,112	451,214,842	1.14	513,258	4,550	520	473	440
1908	332,573,944	374,135,268	1.12	516,264	4,730	531	482	450
1909	379,744,257	405,486,777	1.07	543,152	5,775	560	510	474
1910	417,111,142	469,281,719	1.12	555,533	5,818	592	538	502
1911	405,907,059	451,375,819	1.11	549,775	5,887	593	538	502
1912	450,104,982	517,983,445	1.15	548,632	5,747	622	566	527
1913	478,435,297	565,234,952	1.18	571,882	5,776	635	577	538
1914	422,703,970	493,309,244	1.17	583,506	5,592	668	608	566
1915	442,624,426	502,037,688	1.13	557,456	5,502	672	610	569
1916	502,519,682	665,116,077	1.32	561,102	5,726	673	613	570
1917	551,790,563	1,249,272,837	2.26	603,143	6,939	699	636	593
1918	579,385,820	1,491,809,940	2.58	615,305	8,319	717	650	607
1919	465,860,058	1,160,616,013	2.49	621,998	8,994	736	669	624
1920	568,666,683	2,129,933,000	3.75	639,547	8,921	796	725	675
1921	415,921,950	1,199,983,600	2.89	663,754	8,038	860	781	729
1922	422,268,099	1,274,820,000	3.02	687,958	9,299	916	832	776
1923	564,564,662	1,514,621,000	2.68	704,793	9,331	970	885	823
1924	483,686,538	1,062,626,000	2.20	619,604	7,586	871	792	738
1925	520,052,741	1,060,402,000	2.04	588,493	7,144	822	748	696
1926	573,366,985	1,183,412,000	2.06	593,647	7,177	821	747	696
1927	517,763,352	1,029,657,000	1.99	593,918	7,011	835	759	708
1928	500,744,970	933,774,000	1.86	522,150	6,450	760	691	644
1929	534,988,593	952,781,000	1.78	502,993	6,057	752	679	638
1930	467,526,299	795,483,000	1.70	493,202	5,891	770	700	653
1931	382,089,396	588,895,000	1.54	450,213	5,642	736	669	623
1932	309,709,872	406,677,000	1.31	406,380	5,427	653	594	554
1933	333,630,533	445,788,000	1.34	418,703	5,555	615	559	521
1934	359,368,022	628,383,000	1.75	458,011	6,258	622	565	527
1935	372,373,122	658,063,000	1.77	462,403	6,315	640	582	543
1936	439,087,903	770,955,000	1.76	477,204	6,875	680	618	576
1937	445,531,449	864,042,000	1.94	491,864	6,548	710	646	601
1938	348,544,764	678,653,000	1.95	441,333	5,777	663	602	562
1939	394,855,325	728,348,366	1.84	421,788	5,820	683	621	579
1940	460,771,500	879,327,227	1.91	439,075	6,324	703	639	595
1941	514,149,245	1,125,362,836	2.19	456,981	6,822	733	666	621
1942	582,692,937	1,373,990,608	2.36	461,991	6,972	730	663	618
1943	590,177,069	1,584,644,477	2.69	416,007	6,620	689	626	583
1944	619,576,240	1,810,900,542	2.92	393,347	6,928	686	624	582
1945	577,617,327	1,768,204,320	3.06	383,100	7,033	682	620	578

1/ Figures on value and value per ton for the years 1890 to 1936, inclusive, and 1939, exclude selling expense. Figures for other years include selling expense.

2/ Data not available.

TABLE 16. - GROWTH OF THE BITUMINOUS-COAL AND LIGNITE-MINING INDUSTRY IN THE UNITED STATES, 1890-1945 - Continued

Year	Average number of days worked	Average number of days lost on account of strikes—		Net tons per man—		Percent of underground production—		Percent of total production—	
		Per man employed	Per man on strike	Per day	Per year	Cut by machines 1/	Mechanically loaded	Mechanically cleaned 2/	Mined by stripping
1890	226	(3)	(3)	2.56	579	(3)	(3)	(3)	(3)
1891	223	(3)	(3)	2.57	573	5.3	(3)	(3)	(3)
1892	219	(3)	(3)	2.72	596	(3)	(3)	(3)	(3)
1893	204	(3)	(3)	2.73	557	(3)	(3)	(3)	(3)
1894	171	(3)	(3)	2.84	486	(3)	(3)	(3)	(3)
1895	194	(3)	(3)	2.90	563	(3)	(3)	(3)	(3)
1896	192	(3)	(3)	2.94	564	11.9	(3)	(3)	(3)
1897	196	(3)	(3)	3.04	596	15.3	(3)	(3)	(3)
1898	211	(3)	(3)	3.09	651	19.5	(3)	(3)	(3)
1899	234	8	46	3.05	713	22.7	(3)	(3)	(3)
1900	234	5	43	2.98	697	24.9	(3)	(3)	(3)
1901	225	2	35	2.94	664	25.6	(3)	(3)	(3)
1902	230	7	44	3.06	703	26.8	(3)	(3)	(3)
1903	225	3	28	3.02	680	27.6	(3)	(3)	(3)
1904	202	8	44	3.15	637	28.2	(3)	(3)	(3)
1905	211	2	23	3.24	684	32.8	(3)	(3)	(3)
1906	213	28	63	3.36	717	34.7	(3)	2.7	(3)
1907	234	1	14	3.29	769	35.1	(3)	2.9	(3)
1908	193	11	38	3.34	644	37.0	(3)	3.6	(3)
1909	209	1	29	3.34	699	37.5	(3)	3.8	(3)
1910	217	35	89	3.46	751	41.7	(3)	3.8	(3)
1911	211	2	27	3.50	738	43.9	(3)	(3)	(3)
1912	223	10	35	3.68	820	46.8	(3)	3.9	(3)
1913	232	4	36	3.61	837	50.7	(3)	4.6	(3)
1914	195	19	80	3.71	724	51.8	(3)	4.8	0.3
1915	203	4	61	3.91	794	55.3	(3)	4.7	.6
1916	230	4	26	3.90	896	56.9	(3)	4.6	.8
1917	243	4	17	3.77	915	56.1	(3)	4.6	1.0
1918	249	1	7	3.78	942	56.7	(3)	3.8	1.4
1919	195	25	37	3.84	749	60.0	(3)	3.6	1.2
1920	220	6	22	4.00	881	60.7	(3)	3.3	1.5
1921	149	3	23	4.20	627	66.4	(3)	3.4	1.2
1922	142	78	117	4.28	609	64.8	(3)	(3)	2.4
1923	179	2	20	4.47	801	68.3	0.3	3.8	2.1
1924	171	7	73	4.56	781	71.5	.7	(3)	2.8
1925	195	2	30	4.52	884	72.9	1.2	(3)	3.2
1926	215	1	24	4.50	966	73.8	1.8	(3)	3.0
1927	191	45	153	4.55	872	74.9	3.3	5.3	3.6
1928	203	8	83	4.73	959	76.9	4.5	5.7	4.0
1929	219	(4)	11	4.85	1,064	78.4	7.4	6.9	3.8
1930	187	2	43	5.06	948	81.0	10.5	8.3	4.3
1931	160	3	35	5.30	849	83.2	13.1	9.5	5.0
1932	146	19	120	5.22	762	84.1	12.3	9.8	6.3
1933	167	9	30	4.78	797	84.7	12.0	10.4	5.5
1934	178	3	15	4.40	785	84.1	12.2	11.1	5.8
1935	179	(3)	(3)	4.50	805	84.2	13.5	12.2	6.4
1936	199	2	21	4.62	920	84.8	16.3	13.9	6.4
1937	193	(3)	(3)	4.69	906	(3)	20.2	14.6	7.1
1938	162	1	13	4.89	790	87.5	26.7	18.2	8.7
1939	178	25	36	5.25	936	87.9	31.0	20.1	9.6
1940	202	1	8	5.19	1,049	88.4	35.4	22.2	9.4
1941	216	20	27	5.20	1,125	89.0	40.7	22.9	10.7
1942	246	1	7	5.12	1,261	89.7	45.2	24.4	11.5
1943	264	(3)	(3)	5.38	1,419	90.3	48.9	24.7	13.5
1944	278	(3)	(3)	5.67	1,575	90.5	52.9	25.6	16.3
1945	261	(3)	(3)	5.78	1,508	90.8	56.1	25.6	19.0

1/ Percentages for the years 1890 to 1913, inclusive, are of total production, as a separation of strip mine and underground production is not available for these years.

2/ For the years 1906 to 1926, inclusive, these percentages are exclusive of coal cleaned at central washeries operated by consumers; after 1926, when data became available on the tonnage cleaned by consumer-operated plants, the percentages include the total tons cleaned at the mines and at consumer-operated washeries.

3/ Data not available.

4/ One-half day or less.

TABLE 17. - GROWTH OF STRIP MINING AT BITUMINOUS-COAL AND LIGNITE-MINES IN THE UNITED STATES, 1914-45

Year	Production (thousands of net tons)			Percent of total production mined by stripping	Average tons per man per day			Average value per ton, f.o.b. mine			Number of strip mines	Number of power shovels and draglines
	Strip mines	Underground mines	Total all mines		Strip mines 1/	Underground mines 2/	Total all mines	Strip mines 1/	Underground mines 2/	Total all mines		
1914 ...	1,281	421,423	422,704	0.3	5.06	3.71	3.71	(3)	(3)	$1.17	4/ 35	48
1915 ...	2,832	439,792	442,624	.6	5.81	3.90	3.91	$1.18	$1.13	1.13	4/ 60	87
1916 ...	3,933	498,587	502,520	.8	6.67	3.88	3.90	1.51	1.32	1.32	4/ 79	111
1917 ...	5,790	546,001	551,791	1.0	6.52	3.75	3.77	2.34	2.26	2.26	4/ 126	182
1918 ...	8,288	571,098	579,386	1.4	6.81	3.76	3.78	2.54	2.58	2.58	4/ 165	276
1919 ...	5,635	460,225	465,860	1.2	6.21	3.82	3.84	2.33	2.49	2.49	4/ 168	287
1920 ...	8,860	559,807	568,667	1.5	7.20	3.97	4.00	4.12	3.74	3.75	4/ 174	312
1921 ...	5,057	410,865	415,922	1.2	8.28	4.18	4.20	2.87	2.89	2.89	4/ 155	279
1922 ...	10,209	412,059	422,268	2.4	8.09	4.24	4.28	3.07	3.02	3.02	272	379
1923 ...	11,940	552,625	564,565	2.1	9.32	4.43	4.47	2.31	2.69	2.68	263	442
1924 ...	13,607	470,080	483,687	2.8	9.91	4.50	4.56	2.00	2.20	2.20	234	420
1925 ...	16,871	503,182	520,053	3.2	11.18	4.45	4.52	1.84	2.05	2.04	227	389
1926 ...	16,923	556,444	573,367	3.0	11.13	4.42	4.50	1.89	2.07	2.06	237	410
1927 ...	18,378	499,385	517,763	3.6	11.06	4.47	4.55	1.90	1.99	1.99	255	455
1928 ...	19,789	480,956	500,745	4.0	13.02	4.61	4.73	1.69	1.87	1.86	250	415
1929 ...	20,268	514,721	534,989	3.8	14.08	4.73	4.85	1.57	1.79	1.78	200	411
1930 ...	19,842	447,684	467,526	4.3	16.21	4.93	5.06	1.54	1.71	1.70	218	341
1931 ...	18,932	363,157	382,089	5.0	17.68	5.12	5.30	1.51	1.54	1.54	235	314
1932 ...	19,641	290,069	309,710	6.3	16.95	4.99	5.22	1.32	1.31	1.31	255	332
1933 ...	18,270	315,360	333,630	5.5	13.59	4.60	4.78	1.33	1.34	1.34	289	389
1934 ...	20,790	338,578	359,368	5.8	13.28	4.23	4.40	1.49	1.76	1.75	344	458
1935 ...	23,647	348,726	372,373	6.4	12.01	4.32	4.50	1.47	1.79	1.77	368	507
1936 ...	28,126	410,962	439,088	6.4	13.91	4.42	4.62	1.49	1.77	1.76	381	562
1937 ...	31,751	413,780	445,531	7.1	(3)	(3)	4.69	(3)	(3)	1.94	449	(3)
1938 ...	30,407	318,138	348,545	8.7	15.00	4.60	4.89	(3)	(3)	1.95	465	737
1939 ...	37,722	357,133	394,855	9.6	14.68	4.92	5.25	1.49	1.88	1.84	537	914
1940 ...	43,167	417,604	460,771	9.4	15.63	4.86	5.19	1.56	1.94	1.91	638	1,071
1941 ...	55,071	459,078	514,149	10.7	15.59	4.83	5.20	1.79	2.23	2.19	769	1,321
1942 ...	67,203	515,490	582,693	11.5	15.52	4.74	5.12	1.90	2.41	2.36	834	1,438
1943 ...	79,685	510,492	590,177	13.5	15.15	4.89	5.38	2.28	2.75	2.69	1,004	1,839
1944 ...	100,898	518,678	619,576	16.3	15.89	5.04	5.67	2.48	3.01	2.92	1,240	2,312
1945 ...	109,987	467,630	577,617	19.0	15.46	5.04	5.78	2.65	3.16	3.06	1,370	2,439

1/ Includes power strip pits proper and excludes horse stripping operations and mines combining stripping and underground in the same operation for the years 1914-42, inclusive. The years 1943, 1944, and 1945 include data on all strip mines.

2/ Computed by deducting "strip mines" data from "Total all mines."

3/ Data not available.

4/ Exclusive of horse stripping operations.

TABLE 18. - GROWTH OF MECHANICAL LOADING AT UNDERGROUND BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, 1923-45

(Production in thousands of net tons)

Year	Underground production mechanically loaded								Total underground production	Percent of underground production mechanically loaded	Number of mechanical loading units in actual use					
	Loaded by machines				Handled by conveyors			Total mechanically loaded								
	Mobile loading machines	Scrapers	Conveyors equipped with duck-bills or other self-loading heads	Total	Pit-car loaders	Hand loaded conveyors	Total				Mobile loading machines	Scrapers	Conveyors equipped with duck-bills or other self-loading heads	Pit-car loaders	Hand loaded conveyors	Total all types
1923 ...	(1)	(1)	(1)	(1)	(1)	(1)	(1)	2/ 1,880	552,625	2/ 0.3	(1)	(1)	(1)	(1)	(1)	(1)
1924 ...	(1)	(1)	(1)	(1)	(1)	(1)	(1)	2/ 3,496	470,080	2/ .7	(1)	(1)	(1)	(1)	(1)	(1)
1925 ...	(1)	(1)	(1)	(1)	(1)	(1)	(1)	2/ 6,243	503,182	2/ 1.2	(1)	(1)	(1)	(1)	(1)	(1)
1926 ...	7,786	1,554	682	10,022	523	(1)	(1)	2/ 10,545	556,444	2/ 1.8	295	133	27	(1)	(1)	(1)
1927 ...	(1)	(1)	(1)	(1)	(1)	(1)	(1)	16,500	499,385	3.3	(1)	(1)	(1)	(1)	(1)	(1)
1928 ...	11,811	1,548	1,200	14,559	4,117	2,883	7,000	21,559	480,956	4.5	397	130	82	1,040	(1)	(1)
1929 ...	16,432	1,550	1,309	19,291	14,979	3,592	18,571	37,862	514,721	7.4	488	126	99	2,521	(1)	(1)
1930 ...	20,073	1,637	1,628	23,338	19,116	4,528	23,644	46,982	447,684	10.5	545	150	140	2,876	(1)	(1)
1931 ...	19,407	1,471	1,811	22,689	19,172	5,701	24,873	47,562	363,157	13.1	583	146	165	3,428	(1)	(1)
1932 ...	14,825	1,132	1,630	17,587	12,590	5,640	18,230	35,817	290,069	12.3	548	128	159	3,112	(1)	(1)
1933 ...	17,865	991	1,656	20,512	11,413	5,896	17,309	37,821	315,360	12.0	523	93	132	2,453	525	3,726
1934 ...	20,750	1,004	2,082	23,836	11,089	6,508	17,597	41,433	338,578	12.2	534	119	157	2,288	574	3,672
1935 ...	24,675	1,118	2,595	28,388	11,098	7,691	18,789	47,177	348,726	13.5	657	78	179	2,098	670	3,682
1936 ...	40,970	1,273	3,240	45,483	10,538	10,956	21,494	66,977	410,962	16.3	980	106	234	1,851	936	4,107
1937 ...	(1)	(1)	(1)	(1)	(1)	(1)	(1)	83,500	413,780	20.2	(1)	(1)	(1)	(1)	(1)	(1)
1938 ...	57,824	1,031	4,248	63,103	5,653	16,337	21,990	85,093	318,138	26.7	1,405	117	346	1,392	1,526	4,786
1939 ...	76,442	1,007	6,759	84,208	5,038	21,466	26,504	110,712	357,133	31.0	1,573	131	559	873	1,834	4,970
1940 ...	100,962	1,255	10,362	112,579	3,979	31,312	35,291	147,870	417,604	35.4	1,720	116	656	697	2,263	5,452
1941 ...	126,478	1,290	14,918	142,686	3,447	40,534	43,981	186,667	459,078	40.7	1,985	109	788	607	2,807	6,296
1942 ...	160,301	1,405	20,683	182,389	3,252	47,262	50,514	232,903	515,490	45.2	2,301	93	1,062	481	3,041	6,978
1943 ...	179,008	1,349	22,917	203,274	2,669	43,862	46,531	249,805	510,492	48.9	2,525	83	1,226	321	3,191	7,346
1944 ...	202,875	1,341	23,164	227,380	1,835	44,974	46,809	274,189	518,678	52.9	2,737	87	1,331	241	3,236	7,632
1945 ...	198,668	1,252	21,506	221,426	986	40,100	41,086	262,512	467,630	56.1	2,950	87	1,383	142	3,385	7,947

1/ Data not available.
2/ Exclusive of tonnage "Handled by conveyors."

TABLE 19. - BITUMINOUS COAL MECHANICALLY CLEANED IN THE UNITED STATES, BY TYPES OF EQUIPMENT IN ACTUAL OPERATION, 1927-45 1/

(Includes coal cleaned at plants operated by consumers at central washeries in Colorado and Pennsylvania)

Year	Thousands of net tons of clean coal								Percent cleaned by each type							
	Wet methods						Pneumatic methods	Total	Wet methods						Pneumatic methods	Total
	Jigs	Concentrating tables	Jigs in combination with concentrating tables	Launders and upward current classifiers	Unspecified and other combinations	Total wet methods			Jigs	Concentrating tables	Jigs in combination with concentrating tables	Launders and upward current classifiers	Unspecified and other combinations	Total wet methods		
1927 ...	18,741	3,200	300	1,000	2/ 800	24,041	3,651	27,692	67.6	11.6	1.1	3.6	2.9	86.8	13.2	100.0
1928 ...	17,927	3,412	1,056	2,446	2/ 156	24,997	3,786	28,783	62.3	11.8	3.7	8.5	.5	86.8	13.2	100.0
1929 ...	18,915	3,532	1,214	7,103	2/ 191	30,955	5,844	36,799	51.4	9.6	3.3	19.3	.5	84.1	15.9	100.0
1930 ...	17,724	2,272	1,029	9,818	2/ 62	30,905	7,895	38,800	45.6	5.9	2.7	25.3	.2	79.7	20.3	100.0
1931 ...	13,957	1,551	926	11,213	2/ 11	27,658	8,514	36,172	38.6	4.3	2.6	31.0	(3)	76.5	23.5	100.0
1932 ...	9,963	821	806	12,140	2/ 9	23,739	6,539	30,278	32.8	2.7	2.7	40.2	(3)	78.4	21.6	100.0
1933 ...	11,895	1,119	693	13,272	2/ 5	26,984	7,574	34,558	34.4	3.2	2.0	38.5	(3)	78.1	21.9	100.0
1934 ...	14,012	1,116	1,227	15,168	2/ 6	31,529	8,298	39,827	35.2	2.8	3.1	38.1	(3)	79.2	20.8	100.0
1935 ...	15,735	1,118	1,549	18,454	—	36,856	8,505	45,361	34.7	2.5	3.4	40.7	—	81.3	18.7	100.0
1936 ...	23,417	1,843	2,613	22,631	—	50,504	10,591	61,095	38.3	3.0	4.3	37.1	—	82.7	17.3	100.0
1937 ...	(4)	(4)	(4)	(4)	(4)	(4)	(4)	65,000	(4)	(4)	(4)	(4)	(4)	(4)	(4)	—
1938 ...	27,615	984	2,791	19,770	5/ 2,027	53,187	10,268	63,455	43.5	1.6	4.4	31.1	3.2	83.8	16.2	100.0
1939 ...	37,056	1,402	3,256	23,409	6/ 2,611	67,734	11,695	79,429	46.6	1.8	4.1	29.5	3.3	85.3	14.7	100.0
1940 ...	47,064	2,330	2,765	30,723	5/ 4,408	87,290	14,980	102,270	46.0	2.3	2.7	30.0	4.3	85.3	14.7	100.0
1941 ...	53,287	2,510	4,364	34,771	5/ 5,446	100,378	17,162	117,540	45.3	2.2	3.7	29.6	4.6	85.4	14.6	100.0
1942 ...	66,876	3,138	4,366	42,025	5/ 5,595	122,000	20,187	142,187	47.0	2.2	3.1	29.6	3.9	85.8	14.2	100.0
1943 ...	66,092	2,929	4,322	43,041	5/ 7,991	124,375	21,201	145,576	45.4	2.0	3.0	29.5	5.5	85.4	14.6	100.0
1944 ...	74,175	2,753	4,649	48,551	5/ 8,535	138,663	20,064	158,727	46.7	1.8	2.9	30.6	5.4	87.4	12.6	100.0
1945 ...	68,609	2,594	4,754	46,058	5/ 8,455	130,470	17,416	147,886	46.4	1.8	3.2	31.1	5.7	88.2	11.8	100.0

1/ Comparable data for earlier years are not available.
2/ Unspecified.
3/ Less than 0.05 percent.
4/ Data not available.
5/ Jigs in combination with launders and upward current classifiers.
6/ Jigs and tables in combination with launders and upward current classifiers.

TABLE 20. - METHOD OF MINING AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES SERVED BY CLEANING PLANTS, 1933-45 1/

(Production in thousands of net tons)

Year	Strip mines			Underground mines						Total all mines		
				Mechanical loading			Hand-loading					
	Total production	Production from mines with cleaning plants	Percent col. (c) is of col. (b)	Production mechanically loaded	Production from mines with cleaning plants	Percent col. (f) is of col. (e)	Production hand-loaded	Production from mines with cleaning plants	Percent col. (i) is of col. (h)	Grand total production	Production from mines with cleaning plants	Percent col. (l) is of col. (k)
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
1933	18,270	3,940	21.6	37,821	9,253	24.5	277,539	59,606	21.5	333,630	72,799	21.8
1934	20,790	7,128	34.3	41,433	10,129	24.4	297,145	59,052	19.9	359,368	76,309	21.2
1935	23,647	9,314	39.4	47,177	15,066	31.9	301,549	62,786	20.8	372,373	87,166	23.4
1936	28,126	10,953	38.9	66,977	23,462	35.0	343,985	80,987	23.5	439,088	115,402	26.3
1937	31,751	(2)	(2)	83,500	(2)	(2)	330,280	(2)	(2)	445,531	(2)	(2)
1938	30,407	15,214	50.0	85,093	37,195	43.7	233,045	55,829	24.0	348,545	108,238	31.1
1939	37,722	17,960	47.6	110,712	53,496	48.3	246,421	61,858	25.1	394,855	133,314	33.8
1940	43,167	20,030	46.4	147,870	66,148	44.7	269,734	75,558	28.0	460,771	161,736	35.1
1941	55,071	24,773	45.0	186,667	93,374	50.0	272,411	67,321	24.7	514,149	185,468	36.1
1942	67,203	28,597	42.6	232,903	118,917	51.1	282,587	70,560	25.0	582,693	218,074	37.4
1943	79,685	30,326	38.1	249,805	125,314	50.2	260,687	67,258	25.8	590,177	222,898	37.8
1944	100,898	32,444	32.2	274,189	137,927	50.3	244,489	62,565	25.6	619,576	232,936	37.6
1945	109,987	35,910	32.6	262,512	129,733	49.4	205,118	48,615	23.7	577,617	214,258	37.1

1/ Does not include any estimate for mines that may ship to consumer-operated plants. Comparable data for earlier years are not available.
2/ Data not available.

TABLE 21. - COAL PRODUCED IN THE UNITED STATES, BY STATES, 1935-45, WITH PRODUCTION OF MAXIMUM YEAR AND CUMULATIVE PRODUCTION FROM EARLIEST RECORD TO END OF 1945, IN THOUSANDS OF NET TONS

State	Maximum production		Production by years											Total production from earliest record to end of 1945
	Year	Quantity	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	
Alabama	1926	21,001	8,505	12,229	12,440	11,062	12,047	15,324	15,464	19,301	17,160	18,752	18,236	755,312
Arkansas	1907	2,670	1,133	1,623	1,511	1,197	1,152	1,454	1,574	1,985	1,718	1,972	1,854	85,250
Colorado	1917	12,483	5,911	6,812	7,187	5,663	5,923	6,589	6,949	8,086	8,324	8,168	7,621	448,582
Georgia	1903	416	(1)	(1)	(1)	(1)	(1)	(1)	(1)	31	14	24	43	(1)
Illinois	1918	89,291	44,525	50,927	51,602	41,912	46,783	50,610	54,703	65,071	72,631	76,792	73,011	2,887,404
Indiana	1918	30,679	15,754	17,822	17,765	14,759	16,943	18,869	22,484	25,388	25,065	27,962	25,183	897,743
Iowa	1917	8,966	3,650	3,961	3,637	3,103	2,948	3,231	2,939	2,948	2,771	2,141	2,046	330,866
Kansas	1918	7,562	2,686	2,944	2,893	2,654	2,675	3,579	4,008	4,230	3,437	3,369	3,228	256,244
Kentucky	1944	71,356	40,761	47,522	47,086	38,545	42,557	49,141	53,710	62,231	63,211	71,356	69,593	1,660,313
Maryland	1907	5,533	1,678	1,704	1,549	1,281	1,443	1,503	1,701	2,001	1,933	1,870	1,763	253,442
Michigan	1907	2,036	628	626	562	494	457	410	311	231	169	140	126	46,254
Missouri	1917	5,671	3,646	3,985	4,091	3,436	3,273	3,097	3,145	3,520	4,310	4,779	3,983	241,829
Montana (bituminous and lignite)	1944	4,844	2,759	2,988	2,965	2,732	2,804	2,867	3,254	3,829	4,833	4,844	4,467	144,698
New Mexico	1918	4,023	1,389	1,597	1,715	1,239	1,230	1,111	1,251	1,669	1,851	1,744	1,484	116,349
North Carolina	1922	79	(1)	(1)	—	—	—	—	—	—	—	—	—	(1)
North Dakota (lignite)	1942	2,537	1,956	2,215	2,251	2,050	2,072	2,218	2,309	2,537	2,500	2,366	2,522	56,397
Ohio	1920	45,878	21,153	24,110	25,178	18,591	20,289	22,772	29,319	32,764	32,255	33,877	32,737	1,558,151
Oklahoma	1920	4,849	1,229	1,540	1,600	1,245	1,188	1,646	1,771	2,387	2,838	3,209	2,909	146,223
Pennsylvania (bituminous)	1918	178,551	91,405	109,887	111,002	77,705	92,584	116,603	130,240	144,073	141,050	146,052	132,965	6,869,458
Tennessee	1942	8,158	4,138	5,108	5,213	4,472	5,185	6,008	7,045	8,158	7,179	7,266	6,271	301,781
Texas (bituminous and lignite)	1913	2,429	758	843	910	879	826	621	353	304	153	2/ 109	2/ 80	60,688
Utah	1944	7,119	2,947	3,247	3,810	2,947	3,285	3,576	4,077	5,517	6,666	7,119	6,679	171,470
Virginia	1943	20,280	9,667	11,662	13,795	12,283	13,531	15,348	18,441	20,136	20,280	19,514	17,235	485,842
Washington	1918	4,082	1,559	1,812	2,002	1,567	1,690	1,650	1,841	1,953	1,528	1,524	1,357	138,221
West Virginia	1944	164,704	99,179	117,926	118,646	93,288	108,362	126,438	140,250	155,882	158,804	164,704	152,035	4,350,094
Wyoming	1945	9,847	5,177	5,781	5,918	5,204	5,373	5,808	6,646	8,133	9,155	9,540	9,847	335,362
Other States	—	—	180	217	203	237	235	299	364	328	342	383	342	64,100
Total bituminous and lignite	1944	619,576	372,373	439,088	445,531	348,545	394,855	460,772	514,149	582,693	590,177	619,576	577,617	22,662,073
Pennsylvania anthracite	1917	99,612	52,159	54,580	51,856	46,099	51,487	51,485	56,368	60,328	60,644	63,701	54,934	4,681,404
Grand total	—	—	424,532	493,668	497,387	394,644	446,342	512,257	570,517	643,021	650,821	683,277	632,551	27,343,477

1/ Included under "Other States."
2/ Lignite only.

TABLE 22. - NUMBER OF MINES, PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES, IN 1945

(Exclusive of mines producing less than 1,000 tons)

State	Number of active mines	Disposition of coal produced (net tons)								Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
		Loaded at mine directly into railroad cars or river barges	Hauled by truck to railroad siding for shipment by rail and to waterway for shipment by water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Taken by locomotive tenders at tipple	Shipped by conveyor or tram to point of consumption	Used by mine employees	Used at mines for power and heat and made into beehive coke at mines 2/	Total quantity		Under-ground	Surface		Total			
												In strip pits	All others				
Alabama	377	15,215,244	1,144,614	1,340,593	61,391	295,802	88,820	90,075	16,236,539	$4.19	16,650	918	3,413	20,981	270	5,662,666	3.22
Alaska	5	258,079	6,053	23,274	1,425	—	—	8,813	297,644	6.28	267	—	68	335	302	101,035	2.95
Arizona	1	—	—	3,853	—	—	—	—	3,853	3.50	7	—	1	8	268	2,144	1.80
Arkansas	67	1,310,301	471,724	65,632	—	—	3,426	2,843	1,853,926	5.05	1,560	417	399	2,376	217	514,820	3.60
Colorado	166	5,392,780	424,375	1,438,686	12,665	63,436	39,463	2/ 249,607	7,621,012	3.69	5,213	38	1,179	6,430	261	1,681,071	4.53
Georgia	3	38,701	—	3,000	—	—	445	422	42,568	3.85	64	10	15	89	256	22,798	1.87
Illinois	313	63,773,758	1/ 1,529,018	6,303,908	16,660	224,109	333,477	830,262	73,011,192	2.34	22,131	1,743	7,374	31,248	258	8,061,662	9.06
Indiana	134	21,674,200	722,767	2,147,033	7,541	466,833	37,911	126,326	25,182,611	2.32	5,296	1,830	2,646	9,772	241	2,351,205	10.71
Iowa	117	667,646	392,347	960,705	—	—	18,011	6,891	2,045,600	3.51	1,791	202	378	2,371	216	512,882	3.99
Kansas	51	2,955,684	44,836	166,134	2,000	44,173	8,024	7,708	3,228,559	2.57	490	624	388	1,502	249	373,904	8.63
Kentucky	1,441	56,323,225	5,640,164	6,438,519	8,345	108,063	355,700	2/ 218,920	69,592,936	3.00	42,773	995	8,790	52,558	254	13,341,224	5.22
Maryland	94	1,173,563	283,736	294,729	1,131	—	6,340	3,204	1,762,703	3.61	1,329	141	265	1,735	257	446,039	3.95
Michigan	3	49,803	—	65,208	—	—	1,642	9,051	125,704	5.47	142	—	31	173	268	46,341	2.71
Missouri	86	2,947,467	72,965	949,115	—	—	8,974	4,203	3,982,724	2.59	857	639	475	1,971	228	448,648	8.88
Montana: Bituminous	26	4,269,212	25,347	113,653	123	—	10,314	6,542	4,425,191	1.88	732	86	320	1,138	260	296,125	14.94
Lignite	7	—	—	4/ 41,597	—	—	(4)	—	41,597	2.38	31	2	7	40	196	7,828	5.31
Total Montana	33	4,269,212	25,347	155,250	123	—	10,314	6,542	4,466,788	1.89	763	88	327	1,178	258	303,953	14.70
New Mexico	26	1,327,919	14,376	88,814	—	—	8,427	44,150	1,483,686	3.80	1,005	8	298	1,311	270	354,499	4.19
North Dakota (lignite)	53	2,023,257	—	430,445	—	4/ 47,486	(4)	21,131	2,522,319	1.56	227	282	248	757	226	171,251	14.73
Ohio	535	23,799,192	1/ 3,049,682	5,757,247	—	34,173	67,149	29,992	32,737,435	2.79	12,175	2,777	3,716	18,668	241	4,503,840	7.27
Oklahoma	76	2,424,425	297,309	170,849	—	—	1,487	14,906	2,908,976	3.61	1,380	386	464	2,230	224	500,036	5.82
Oregon	1	—	7,718	8,752	—	—	30	—	16,500	3.99	24	—	13	37	192	7,104	2.32
Pennsylvania	1,957	92,380,040	1/20,342,100	10,733,300	186,686	3,278,635	570,073	2/ 5,474,509	132,965,343	3.29	72,967	7,947	15,022	95,936	257	24,654,211	5.39
South Dakota (lignite)	4	—	5,360	4/ 19,085	—	—	(4)	—	24,445	2.17	4	11	—	15	259	3,881	6.30
Tennessee	140	5,093,069	1/ 750,341	311,568	38,901	—	60,710	16,119	6,270,708	3.43	5,356	110	1,006	6,472	240	1,556,265	4.03
Texas (lignite)	1	79,051	—	—	898	—	—	—	79,949	.85	—	19	7	26	158	4,096	19.52
Utah	52	6,260,025	124,492	225,039	895	—	42,829	2/ 25,783	6,679,063	3.41	2,771	—	945	3,716	291	1,079,939	6.18
Virginia	145	15,907,673	576,920	312,553	—	—	128,395	2/309,452	17,234,993	3.43	12,177	98	2,386	14,661	278	4,070,626	4.23
Washington	46	849,683	69,280	399,090	12,096	479	11,933	14,683	1,357,244	5.12	951	100	324	1,375	273	375,945	3.61
West Virginia	1,058	133,414,315	1/12,344,002	2,541,962	339,631	1,853,138	816,273	2/725,411	152,034,732	3.20	78,183	3,749	18,686	100,618	271	27,275,885	5.57
Wyoming	48	9,375,168	196,661	123,085	4,167	—	40,186	108,308	9,847,575	2.83	3,448	129	974	4,551	316	1,438,931	6.84
Total	7,033	469,483,480	1/ 48,536,187	41,477,428	694,555	6,416,327	2,660,039	2/ 8,349,311	577,617,327	3.06	290,001	23,261	69,838	383,100	261	99,866,901	5.78

1/ Includes coal hauled by truck to waterway for shipment by water in following States in 1945: Illinois, 129,422 tons; Ohio, 110,808; Pennsylvania, 232,685; Tennessee, 115,164; and West Virginia, 808,014 - a grand total of 1,396,093 tons.

2/ Includes coal made into beehive coke at mines in following States in 1945: Colorado, 129,837 tons; Kentucky, 124,153; Pennsylvania, 4,960,378; Utah, 7,889; Virginia, 284,785; and West Virginia, 399,871 - a grand total of 5,906,913 tons.

3/ Value received or charged for coal f.o.b. mine, including selling cost. (Includes a value for coal not sold but used by producer, such as mine fuel and coal coked [not coke] as estimated by producer, at average prices that might have been received if such coal had been sold commercially.)

4/ As it is necessary to conceal certain items in the lignite break-down of disposition of coal, the figures are shown here in column where greater part of concealed tonnage is included.

TABLE 23. - NUMBER OF MINES, PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY DISTRICTS, IN 1945

(Districts as defined in the Bituminous Coal Act of 1937 and modifications thereto. Exclusive of mines producing less than 1,000 tons)

Minimum Price Area and Producing District	Number of active mines	Disposition of coal produced (net tons)								Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
		Loaded at mine directly into railroad cars or river barges	Hauled by truck to railroad siding for shipment by rail and to waterway for shipment by water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Taken by locomotive tenders at tipple	Shipped by conveyor or tram to point of consumption	Used by mine employees	Used at mines for power and heat and made into beehive coke at mines 2/	Total quantity		Underground	Surface		Total			
												In strip pits	All others				
PRICE AREA 1																	
Dist. 1. Eastern Pennsylvania 4/	1,286	38,699,673	11,608,123	3,684,806	35,457	1,819,143	225,301	2/ 673,899	56,746,402	$3.41	32,692	4,814	7,530	45,036	253	11,414,403	4.97
Dist. 2. Western Pennsylvania	790	55,788,229	1/ 9,084,363	7,398,160	152,360	1,459,492	354,814	2/ 4,830,566	79,067,984	3.21	42,167	3,398	7,902	53,467	260	13,893,334	5.69
Dist. 3. Northern West Virginia	411	33,802,316	1/ 9,062,547	1,142,927	116,011	489,018	79,252	2/ 274,148	44,966,219	2.88	16,617	2,622	4,895	24,134	256	6,170,150	7.29
Dist. 4. Ohio	535	23,799,192	1/ 3,049,682	5,757,247	—	34,173	67,149	29,992	32,737,435	2.79	12,175	2,777	3,716	18,668	241	4,503,840	7.27
Dist. 5. Michigan	3	49,803	—	65,208	—	—	1,642	9,051	125,704	5.47	142	—	31	173	268	46,341	2.71
Dist. 6. Panhandle	38	2,310,434	1/ 505,796	655,592	206,133	894,329	18,016	18,739	4,609,039	2.93	2,316	224	431	2,971	265	787,191	5.86
Dist. 7. Southern Numbered 1	293	53,307,820	1,621,390	249,955	—	150,539	443,141	2/ 233,686	56,006,531	3.53	35,689	683	7,430	43,802	282	12,364,376	4.53
Dist. 8. Southern Numbered 2	1,582	103,583,047	1/ 6,601,578	4,651,104	60,515	409,966	772,821	2/ 669,707	116,748,738	3.27	75,150	557	15,705	91,412	262	23,946,436	4.88
Total Price Area 1	4,938	311,340,514	41,533,479	23,604,999	570,476	5,256,660	1,962,136	6,739,788	391,008,052	3.23	216,948	15,075	47,640	279,663	261	73,126,071	5.35
PRICE AREA 2																	
Dist. 9. West Kentucky	368	16,615,968	1,026,472	2,709,833	—	17,349	30,102	44,648	20,444,372	2.18	6,755	694	2,030	9,479	252	2,388,342	8.56
Dist. 10. Illinois	313	63,773,758	1/ 1,529,018	6,303,908	16,660	224,109	333,477	830,262	73,011,192	2.34	22,131	1,743	7,374	31,248	258	8,061,662	9.06
Dist. 11. Indiana	134	21,674,200	722,767	2,147,033	7,541	466,833	37,911	126,326	25,182,611	2.32	5,296	1,830	2,646	9,772	241	2,351,205	10.71
Dist. 12. Iowa	117	667,646	392,347	960,705	—	—	18,011	6,891	2,045,600	3.51	1,791	202	378	2,371	216	512,882	3.99
Total Price Area 2	932	102,731,572	3,670,604	12,121,479	24,201	708,291	419,501	1,008,127	120,683,775	2.33	35,973	4,469	12,428	52,870	252	13,314,091	9.06
PRICE AREA 3																	
Dist. 13. Southeastern	447	15,938,343	1/ 1,571,608	1,483,847	65,609	295,802	103,309	92,719	19,551,237	4.14	18,113	976	3,660	22,749	267	6,065,482	3.22
PRICE AREA 4																	
Dist. 14. Arkansas-Oklahoma	93	1,618,855	552,673	79,466	—	—	4,102	6,035	2,261,131	5.01	2,114	453	507	3,074	213	654,484	3.45
PRICE AREA 5																	
Dist. 15. Southwestern:																	
Bituminous	187	8,019,022	334,161	1,272,264	2,000	44,173	17,809	23,625	9,713,054	2.80	2,173	1,613	1,219	5,005	236	1,182,924	8.21
Lignite (Texas)	1	79,051	—	—	898	—	—	—	79,949	.85	—	19	7	26	158	4,096	19.52
Total Price Area 5	188	8,098,073	334,161	1,272,264	2,898	44,173	17,809	23,625	9,793,003	2.78	2,173	1,632	1,226	5,031	236	1,187,020	8.25
PRICE AREA 6																	
Dist. 16. Northern Colorado	31	1,474,299	10,686	776,487	—	36,320	15,147	37,665	2,350,604	3.42	1,479	8	294	1,781	236	421,006	5.58
Dist. 17. Southern Colorado 5/	139	4,998,138	413,689	669,975	12,665	27,116	28,909	2/ 215,350	6,365,842	3.76	4,319	30	1,036	5,385	275	1,482,393	4.29
Dist. 18. New Mexico 6/	23	248,262	14,376	84,891	—	—	3,834	40,742	392,105	4.55	427	8	148	583	230	134,315	2.92
Total Price Area 6	193	6,720,699	438,751	1,531,353	12,665	63,436	47,890	293,757	9,108,551	3.70	6,225	46	1,478	7,749	263	2,037,714	4.47
PRICE AREA 7																	
Dist. 19. Wyoming 7/	48	9,375,168	196,661	123,085	4,167	—	40,186	108,308	9,847,575	2.83	3,448	129	974	4,551	316	1,438,931	6.84
Dist. 20. Utah	52	6,260,025	124,492	225,039	895	—	42,829	2/ 25,783	6,679,063	3.41	2,771	—	945	3,716	291	1,079,939	6.18
Total Price Area 7	100	15,635,193	321,153	348,124	5,062	—	83,015	134,091	16,526,638	3.06	6,219	129	1,919	8,267	305	2,518,870	6.56
PRICE AREA 8																	
Dist. 21. North-South Dakota (lignite)	57	2,023,257	5,360	8/ 449,530	—	8/ 47,486	(8)	21,131	2,546,764	1.56	231	293	248	772	227	175,132	14.54
PRICE AREA 9																	
Dist. 22. Montana (bituminous and lignite)	33	4,269,212	25,347	8/ 155,250	123	—	8/ 10,314	6,542	4,466,788	1.89	763	88	327	1,178	258	303,953	14.70
PRICE AREA 10																	
Dist. 23. Washington 9/	47	849,683	76,998	407,842	12,096	479	11,963	14,683	1,373,744	5.11	975	100	337	1,412	271	383,049	3.59
Alaska	5	258,079	6,053	23,274	1,425	—	—	8,813	297,644	6.28	267	—	68	335	302	101,035	2.95
Total Price Area 10	52	1,107,762	83,051	431,116	13,521	479	11,963	23,496	1,671,388	5.31	1,242	100	405	1,747	277	484,084	3.45
Grand total 10/	7,033	469,483,480	1/ 48,536,187	41,477,428	694,555	6,416,327	2,660,039	2/ 8,349,311	577,617,327	3.06	290,001	23,261	69,838	383,100	261	99,866,901	5.78

1/ Includes coal hauled by truck to waterway for shipment by water in following districts in 1945: District 2, 232,685 tons; District 3, 646,388; District 4, 110,808; District 6, 59,071; District 8, 102,555; District 10, 129,422; and District 13, 115,164 - a grand total of 1,396,093 tons.

2/ Includes coal made into beehive coke at mines in following districts in 1945: District 1, 239,420 tons; District 2, 4,720,958; District 3, 223,286; District 7, 55,146; District 8, 530,377; District 17, 129,837; and District 20, 7,889 - a grand total of 5,906,913 tons.

3/ Value received or charged for coal f.o.b. mine, including selling cost. (Includes a value for coal not sold but used by producer, such as mine fuel and coal coked [not coke] as estimated by producer at average prices that might have been received if such coal had been sold commercially.)

4/ Includes Maryland and Grant, Mineral, and Tucker Counties, West Virginia.

5/ Includes Colfax County, New Mexico.

6/ Includes Arizona and California, but excludes Colfax County, New Mexico. No production was reported for California.

7/ Includes Idaho. No production was reported for Idaho.

8/ As it is necessary to conceal certain items in the lignite break-down disposition of coal, the figures are shown here in column where greater part of concealed tonnage is included.

9/ Includes Oregon.

10/ For purposes of historical comparison and statistical convenience, figures include output of lignite and of anthracite and semianthracite outside of Pennsylvania.

NUMBER AND SIZE OF MINES

TABLE 24. - NUMBER AND PRODUCTION OF BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, CLASSIFIED BY SIZE OF OUTPUT IN EACH STATE, IN 1945

(Exclusive of mines producing less than 1,000 tons)

State	Class 1A, more than 500,000 tons					Class 1B, 200,000 to 500,000 tons					Class 2, 100,000 to 200,000 tons				
	Mines		Production			Mines		Production			Mines		Production		
	Number	Percent	Total (net tons)	Average per mine (net tons)	Percent	Number	Percent	Total (net tons)	Average per mine (net tons)	Percent	Number	Percent	Total (net tons)	Average per mine (net tons)	Percent
Alabama	8	2.1	5,186,464	648,308	28.4	19	5.0	5,487,815	288,832	30.1	23	6.1	3,238,164	140,790	17.8
Alaska	—	—	—	—	—	—	—	—	—	—	2	40.0	209,199	104,600	70.3
Arizona	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arkansas	—	—	—	—	—	—	—	—	—	—	2	3.0	243,645	121,823	13.1
Colorado	1	.6	578,948	578,948	7.6	4	2.4	1,083,944	270,986	14.2	22	13.3	3,196,486	145,295	41.9
Georgia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Illinois	55	17.6	57,846,652	1,051,757	79.2	19	6.1	6,237,449	328,287	8.7	27	8.6	3,992,257	147,861	5.4
Indiana	20	14.9	16,832,049	841,602	66.8	12	9.0	4,114,483	342,874	16.3	17	12.7	2,388,368	140,492	9.5
Iowa	—	—	—	—	—	1	.9	218,384	218,384	10.7	2	1.7	272,564	136,282	13.3
Kansas	1	1.9	685,470	685,470	21.2	5	9.8	1,636,589	327,318	50.7	3	5.9	479,235	159,745	14.9
Kentucky	23	1.6	19,071,004	829,174	27.4	66	4.6	19,721,436	298,810	28.4	105	7.3	15,112,743	143,931	21.7
Maryland	—	—	—	—	—	1	1.1	260,698	260,698	14.8	1	1.1	148,824	148,824	8.4
Michigan	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Missouri	1	1.2	905,359	905,359	22.7	5	5.8	1,799,954	359,991	45.2	3	3.5	414,420	138,140	10.4
Montana (bituminous)	2	7.7	3,085,058	1,542,529	69.7	3	11.5	866,029	288,676	19.6	2	7.7	314,341	157,171	7.1
Montana, North Dakota, South Dakota, and Texas (lignite)	—	—	—	—	—	7	10.8	2,122,778	303,254	79.6	—	—	—	—	—
New Mexico	—	—	—	—	—	3	11.5	964,846	321,615	65.1	2	7.7	274,527	137,264	18.5
Ohio	15	2.8	13,552,374	903,492	41.4	21	3.9	6,911,365	329,113	21.1	35	6.5	5,140,714	146,878	15.7
Oklahoma	—	—	—	—	—	4	5.3	1,041,495	260,374	35.8	6	7.9	753,806	125,634	25.9
Oregon	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pennsylvania	63	3.2	55,921,121	887,637	42.1	85	4.4	25,942,508	305,206	19.5	129	6.6	17,680,270	137,056	13.3
Tennessee	—	—	—	—	—	9	6.4	2,448,145	272,016	39.0	10	7.1	1,491,003	149,100	23.8
Utah	4	7.7	3,444,862	861,216	51.6	7	13.4	2,171,219	310,174	32.5	4	7.7	528,238	132,060	7.9
Virginia	7	4.8	6,056,425	865,204	35.1	17	11.7	6,107,977	359,293	35.4	21	14.5	3,186,580	151,742	18.5
Washington	—	—	—	—	—	—	—	—	—	—	5	10.9	670,480	134,096	49.4
West Virginia	70	6.6	54,787,319	782,676	36.0	182	17.2	56,517,432	310,535	37.2	163	15.4	23,765,034	145,798	15.6
Wyoming	7	14.6	6,502,979	928,997	66.0	6	12.5	1,897,151	316,192	19.3	7	14.6	856,496	122,357	8.7
Total	277	3.9	244,456,084	882,513	42.3	476	6.8	147,551,697	309,983	25.5	591	8.4	84,357,394	142,737	14.6

TABLE 24. - NUMBER AND PRODUCTION OF BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, CLASSIFIED BY SIZE OF OUTPUT IN EACH STATE, IN 1945 - Continued

(Exclusive of mines producing less than 1,000 tons)

State	Class 3, 50,000 to 100,000 tons					Class 4, 10,000 to 50,000 tons					Class 5, less than 10,000 tons					Total		
	Mines		Production			Mines		Production			Mines		Production			Mines	Production (net tons)	
	Number	Percent	Total (net tons)	Average per mine (net tons)	Percent	Number	Percent	Total (net tons)	Average per mine (net tons)	Percent	Number	Percent	Total (net tons)	Average per mine (net tons)	Percent		Total	Average per mine
Alabama	22	5.9	1,559,517	70,887	8.6	81	21.5	1,953,083	24,112	10.7	224	59.4	811,496	3,623	4.4	377	18,236,539	48,373
Alaska	1	20.0	57,498	57,498	19.3	1	20.0	22,421	22,421	7.5	1	20.0	8,526	8,526	2.9	5	297,644	59,529
Arizona	—	—	—	—	—	—	—	—	—	—	1	100.0	3,853	3,853	100.0	1	3,853	3,853
Arkansas	15	22.4	1,015,279	67,685	54.8	20	29.8	485,595	24,280	26.2	30	44.8	109,407	3,647	5.9	67	1,853,926	27,671
Colorado	18	10.8	1,287,183	71,510	16.9	43	25.9	1,133,472	26,360	14.9	78	47.0	340,979	4,372	4.5	166	7,621,012	45,910
Georgia	—	—	—	—	—	2	66.7	39,568	19,784	93.0	1	33.3	3,000	3,000	7.0	3	42,568	14,189
Illinois	28	8.9	1,967,424	70,265	2.7	96	30.7	2,574,838	26,821	3.5	88	28.1	392,572	4,461	.5	313	73,011,192	233,263
Indiana	14	10.4	986,751	70,482	3.9	30	22.4	697,051	23,235	2.8	41	30.6	163,909	3,998	.7	134	25,182,611	187,930
Iowa	6	5.1	427,799	71,300	20.9	40	34.2	809,966	20,249	39.6	68	58.1	316,887	4,660	15.5	117	2,045,600	17,484
Kansas	—	—	—	—	—	13	25.5	307,361	23,643	9.5	29	56.9	119,904	4,135	3.7	51	3,228,559	63,305
Kentucky	79	5.5	5,233,095	66,242	7.5	341	23.6	7,190,077	21,085	10.3	827	57.4	3,264,581	3,947	4.7	1,441	69,592,936	48,295
Maryland	7	7.4	570,643	81,520	32.4	20	21.3	537,085	26,854	30.5	65	69.1	245,453	3,776	13.9	94	1,762,703	18,752
Michigan	1	33.3	93,028	93,028	74.0	2	66.7	32,676	16,338	26.0	—	—	—	—	—	3	125,704	41,901
Missouri	3	3.5	189,023	63,008	4.8	20	23.2	451,124	22,556	11.3	54	62.8	222,844	4,127	5.6	86	3,982,724	46,311
Montana (bituminous)	1	3.9	55,710	55,710	1.3	2	7.7	36,991	18,496	.8	16	61.5	67,062	4,191	1.5	26	4,425,191	170,200
Montana, North Dakota, South Dakota, and Texas (lignite)	3	4.6	192,967	64,322	7.2	10	15.4	203,146	20,315	7.6	45	69.2	149,419	3,320	5.6	65	2,668,310	41,051
New Mexico	1	3.9	70,143	70,143	4.7	4	15.4	114,677	28,669	7.7	16	61.5	59,493	3,718	4.0	26	1,483,686	57,065
Ohio	33	6.2	2,424,935	73,483	7.4	149	27.9	3,628,697	24,354	11.1	282	52.7	1,079,350	3,827	3.3	535	32,737,435	61,191
Oklahoma	9	11.8	641,336	71,260	22.1	16	21.1	313,971	19,623	10.8	41	53.9	158,368	3,863	5.4	76	2,908,976	38,276
Oregon	—	—	—	—	—	1	100.0	16,500	16,500	100.0	—	—	—	—	—	1	16,500	16,500
Pennsylvania	206	10.5	14,512,104	70,447	10.9	666	34.0	15,447,891	23,195	11.6	808	41.3	3,461,449	4,284	2.6	1,957	132,965,343	67,943
Tennessee	21	15.0	1,223,705	58,272	19.5	39	27.9	852,959	21,871	13.6	61	43.6	254,896	4,179	4.1	140	6,270,708	44,791
Utah	3	5.8	200,079	66,693	3.0	13	25.0	271,097	20,854	4.0	21	40.4	63,568	3,027	1.0	52	6,679,063	128,444
Virginia	11	7.6	825,479	75,044	4.8	34	23.5	818,678	24,079	4.8	55	37.9	239,854	4,361	1.4	145	17,234,993	118,862
Washington	3	6.5	171,180	57,060	12.6	18	39.1	425,134	23,619	31.3	20	43.5	90,450	4,523	6.7	46	1,357,244	29,505
West Virginia	137	13.0	9,630,128	70,293	6.3	256	24.2	6,340,040	24,766	4.2	250	23.6	994,779	3,979	.7	1,058	152,034,732	143,700
Wyoming	7	14.6	421,487	60,212	4.3	3	6.2	111,084	37,028	1.1	18	37.5	58,378	3,243	.6	48	9,847,575	205,158
Total	629	8.9	43,756,493	69,565	7.6	1,920	27.3	44,815,182	23,341	7.8	3,140	44.7	12,680,477	4,038	2.2	7,033	577,617,327	82,130

TABLE 25. - NUMBER AND PRODUCTION OF BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, CLASSIFIED BY SIZE OF OUTPUT IN EACH DISTRICT, IN 1945

(Districts as defined in the Bituminous Coal Act of 1937 and modifications thereto. Exclusive of mines producing less than 1,000 tons)

Minimum Price Area and Producing District	Class 1A, more than 500,000 tons					Class 1B, 200,000 to 500,000 tons					Class 2, 100,000 to 200,000 tons				
	Mines		Production			Mines		Production			Mines		Production		
	Number	Percent	Total (net tons)	Average per mine (net tons)	Percent	Number	Percent	Total (net tons)	Average per mine (net tons)	Percent	Number	Percent	Total (net tons)	Average per mine (net tons)	Percent
PRICE AREA 1															
Dist. 1. Eastern Pennsylvania 1/	16	1.2	12,129,797	758,112	21.4	41	3.2	12,198,965	297,536	21.5	81	6.3	10,951,635	135,205	19.3
Dist. 2. Western Pennsylvania	47	5.9	43,791,324	931,730	55.4	45	5.7	14,004,241	311,205	17.7	53	6.7	7,350,253	138,684	9.3
Dist. 3. Northern West Virginia	22	5.4	17,229,782	783,172	38.3	50	12.2	14,466,858	289,337	32.2	42	10.2	5,992,335	142,675	13.3
Dist. 4. Ohio	15	2.8	13,552,374	903,492	41.4	21	3.9	6,911,365	329,113	21.1	35	6.5	5,140,714	146,878	15.7
Dist. 5. Michigan	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dist. 6. Panhandle	4	10.5	2,524,907	631,227	54.8	3	7.9	993,876	331,292	21.6	4	10.5	503,982	125,996	10.9
Dist. 7. Southern Numbered 1	26	8.9	21,946,748	844,106	39.2	71	24.2	23,541,655	331,573	42.0	37	12.6	5,585,940	150,971	10.0
Dist. 8. Southern Numbered 2	38	2.4	30,724,476	808,539	26.3	130	8.2	40,040,580	308,004	34.3	189	12.0	27,536,117	145,694	23.6
Total Price Area 1	168	3.4	141,899,408	844,639	36.3	361	7.3	112,157,540	310,686	28.7	441	8.9	63,060,976	142,995	16.1
PRICE AREA 2															
Dist. 9. West Kentucky	10	2.7	7,488,835	748,884	36.6	19	5.1	5,378,441	283,076	26.3	22	6.0	3,250,649	147,757	15.9
Dist. 10. Illinois	55	17.6	57,846,652	1,051,757	79.2	19	6.1	6,237,449	328,287	8.7	27	8.6	3,992,257	147,861	5.4
Dist. 11. Indiana	20	14.9	16,832,049	841,602	66.8	12	9.0	4,114,483	342,874	16.3	17	12.7	2,388,368	140,492	9.5
Dist. 12. Iowa	—	—	—	—	—	1	.9	218,384	218,384	10.7	2	1.7	272,564	136,282	13.3
Total Price Area 2	85	9.1	82,167,536	966,677	68.1	51	5.5	15,948,757	312,721	13.2	68	7.3	9,903,837	145,645	8.2
PRICE AREA 3															
Dist. 13. Southeastern	8	1.8	5,186,464	648,308	26.5	20	4.5	5,861,395	293,070	30.0	24	5.4	3,451,708	143,821	17.7
PRICE AREA 4															
Dist. 14. Arkansas-Oklahoma	—	—	—	—	—	—	—	—	—	—	2	2.1	243,645	121,823	10.8
PRICE AREA 5															
Dist. 15. Southwestern:															
Bituminous	2	1.1	1,590,829	795,415	16.4	14	7.5	4,478,038	319,860	46.1	12	6.4	1,647,461	137,288	16.9
Lignite (Texas)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
PRICE AREA 6															
Dist. 16. Northern Colorado	—	—	—	—	—	2	6.4	459,843	229,922	19.5	8	25.8	1,175,428	146,929	50.0
Dist. 17. Southern Colorado 3/	1	.7	578,948	578,948	9.1	5	3.6	1,588,947	317,789	25.0	15	10.3	2,151,646	143,443	33.8
Dist. 18. New Mexico 4/	—	—	—	—	—	—	—	—	—	—	1	4.4	143,939	143,939	36.7
Total Price Area 6	1	.5	578,948	578,948	6.4	7	3.6	2,048,790	292,684	22.5	24	12.4	3,471,013	144,626	38.1
PRICE AREA 7															
Dist. 19. Wyoming 5/	7	14.6	6,502,979	928,997	66.0	6	12.5	1,897,151	316,192	19.3	7	14.6	856,496	122,357	8.7
Dist. 20. Utah	4	7.7	3,444,862	861,216	51.6	7	13.4	2,171,219	310,174	32.5	4	7.7	528,238	132,060	7.9
Total Price Area 7	11	11.0	9,947,841	904,349	60.2	13	13.0	4,068,370	312,952	24.6	11	11.0	1,384,734	125,885	8.4
PRICE AREA 8															
Dist. 21. North-South Dakota (lignite)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
PRICE AREA 9															
Dist. 22. Montana 2/	2	7.7	3,085,058	1,542,529	69.7	3	11.5	866,029	288,676	19.6	2	7.7	314,341	157,171	7.1
PRICE AREA 10															
Dist. 23. Washington 6/	—	—	—	—	—	—	—	—	—	—	5	10.6	670,480	134,096	48.8
Alaska	—	—	—	—	—	—	—	—	—	—	2	40.0	209,199	104,600	70.3
Total Price Area 10	—	—	—	—	—	—	—	—	—	—	7	13.5	879,679	125,668	52.6
Total of above	277	4.0	244,456,084	882,513	42.5	469	6.7	145,428,919	310,083	25.3	591	8.5	84,357,394	142,737	14.7
Total lignite 2/	—	—	—	—	—	7	10.8	2,122,778	303,254	79.6	—	—	—	—	—
Grand total 7/	277	3.9	244,456,084	882,513	42.3	476	6.8	147,551,697	309,983	25.5	591	8.4	84,357,394	142,737	14.6

TABLE 25. - NUMBER AND PRODUCTION OF BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, CLASSIFIED BY SIZE OF OUTPUT IN EACH DISTRICT, IN 1945 - Continued

(Districts as defined in the Bituminous Coal Act of 1937 and modifications thereto. Exclusive of mines producing less than 1,000 tons)

Minimum Price Area and Producing District	Class 3, 50,000 to 100,000 tons					Class 4, 10,000 to 50,000 tons					Class 5, less than 10,000 tons					Total		
	Mines		Production			Mines		Production			Mines		Production			Mines	Production (net tons)	
	Number	Percent	Total (net tons)	Average per mine (net tons)	Percent	Number	Percent	Total (net tons)	Average per mine (net tons)	Percent	Number	Percent	Total (net tons)	Average per mine (net tons)	Percent		Total	Average per mine
PRICE AREA 1																		
Dist. 1. Eastern Pennsylvania 1/	134	10.4	9,613,427	71,742	16.9	409	31.8	9,358,140	22,881	16.5	605	47.1	2,494,438	4,123	4.4	1,286	56,746,402	44,126
Dist. 2. Western Pennsylvania	87	11.0	6,006,349	69,038	7.6	281	35.6	6,677,648	23,764	8.4	277	35.1	1,238,169	4,470	1.6	790	79,067,984	100,086
Dist. 3. Northern West Virginia	49	11.9	3,624,924	73,978	8.1	136	33.1	3,208,031	23,588	7.1	112	27.2	444,289	3,967	1.0	411	44,966,219	109,407
Dist. 4. Ohio	33	6.2	2,424,935	73,483	7.4	149	27.9	3,628,697	24,354	11.1	282	52.7	1,079,350	3,827	3.3	535	32,737,435	61,191
Dist. 5. Michigan	1	33.3	93,028	93,028	74.0	2	66.7	32,676	16,338	26.0	—	—	—	—	—	3	125,704	41,901
Dist. 6. Panhandle	5	13.2	318,807	63,761	6.9	9	23.7	221,963	24,663	4.8	13	34.2	45,504	3,500	1.0	38	4,609,039	121,291
Dist. 7. Southern Numbered 1	43	14.7	3,194,519	74,291	5.7	57	19.5	1,499,275	26,303	2.7	59	20.1	238,394	4,041	.4	293	56,006,531	191,149
Dist. 8. Southern Numbered 2	122	7.7	7,873,663	64,538	6.7	334	21.1	7,671,785	22,969	6.6	769	48.6	2,902,117	3,774	2.5	1,582	116,748,738	73,798
Total Price Area 1	474	9.6	33,149,652	69,936	8.5	1,377	27.9	32,298,215	23,455	8.3	2,117	42.9	8,442,261	3,988	2.1	4,938	391,008,052	79,183
PRICE AREA 2																		
Dist. 9. West Kentucky	19	5.2	1,254,375	66,020	6.1	110	29.9	2,154,172	19,583	10.6	188	51.1	917,901	4,882	4.5	368	20,444,372	55,555
Dist. 10. Illinois	28	8.9	1,967,424	70,265	2.7	96	30.7	2,574,838	26,821	3.5	88	28.1	392,572	4,461	.5	313	73,011,192	233,263
Dist. 11. Indiana	14	10.4	986,751	70,482	3.9	30	22.4	697,051	23,235	2.8	41	30.6	163,909	3,998	.7	134	25,182,611	187,930
Dist. 12. Iowa	6	5.1	427,799	71,300	20.9	40	34.2	809,966	20,249	39.6	68	58.1	316,887	4,660	15.5	117	2,045,600	17,484
Total Price Area 2	67	7.2	4,636,349	69,199	3.8	276	29.6	6,236,027	22,594	5.2	385	41.3	1,791,269	4,653	1.5	932	120,683,775	129,489
PRICE AREA 3																		
Dist. 13. Southeastern	24	5.4	1,668,607	69,525	8.5	103	23.0	2,388,367	23,188	12.2	268	59.9	994,696	3,712	5.1	447	19,551,237	43,739
PRICE AREA 4																		
Dist. 14. Arkansas-Oklahoma	17	18.3	1,149,456	67,615	50.8	29	31.2	696,142	24,005	30.8	45	48.4	171,888	3,820	7.6	93	2,261,131	24,313
PRICE AREA 5																		
Dist. 15. Southwestern:																		
Bituminous	10	5.3	696,182	69,618	7.2	40	21.4	861,909	21,548	8.9	109	58.3	438,635	4,024	4.5	187	9,713,054	51,941
Lignite (Texas)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
PRICE AREA 6																		
Dist. 16. Northern Colorado	6	19.4	457,625	76,271	19.5	8	25.8	220,248	27,531	9.4	7	22.6	37,460	5,351	1.6	31	2,350,604	75,826
Dist. 17. Southern Colorado 3/	12	8.6	829,558	69,130	13.0	35	25.2	913,224	26,092	14.3	71	51.1	303,519	4,275	4.8	139	6,365,842	45,797
Dist. 18. New Mexico 4/	1	4.3	70,143	70,143	17.9	4	17.4	114,677	28,669	29.2	17	73.9	63,346	3,726	16.2	23	392,105	17,048
Total Price Area 6	19	9.9	1,357,326	71,438	14.9	47	24.4	1,248,149	26,556	13.7	95	49.2	404,325	4,256	4.4	193	9,108,551	47,195
PRICE AREA 7																		
Dist. 19. Wyoming 5/	7	14.6	421,487	60,212	4.3	3	6.2	111,084	37,028	1.1	18	37.5	58,378	3,243	.6	48	9,847,575	205,158
Dist. 20. Utah	3	5.8	200,079	66,693	3.0	13	25.0	271,097	20,854	4.0	21	40.4	63,568	3,027	1.0	52	6,679,063	128,444
Total Price Area 7	10	10.0	621,566	62,157	3.8	16	16.0	382,181	23,886	2.3	39	39.0	121,946	3,127	.7	100	16,526,638	165,266
PRICE AREA 8																		
Dist. 21. North-South Dakota (lignite)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
PRICE AREA 9																		
Dist. 22. Montana	1	3.9	55,710	55,710	1.3	2	7.7	36,991	18,496	.8	16	61.5	67,062	4,191	1.5	26	4,425,191	170,200
PRICE AREA 10																		
Dist. 23. Washington 6/	3	6.4	171,180	57,060	12.5	19	40.4	441,634	23,244	32.1	20	42.6	90,450	4,523	6.6	47	1,373,744	29,229
Alaska	1	20.0	57,498	57,498	19.3	1	20.0	22,421	22,421	7.5	1	20.0	8,526	8,526	2.9	5	297,644	59,529
Total Price Area 10	4	7.7	228,678	57,170	13.7	20	38.4	464,055	23,203	27.8	21	40.4	98,976	4,713	5.9	52	1,671,388	32,142
Total of above	626	9.0	43,563,526	69,590	7.6	1,910	27.4	44,612,036	23,357	7.7	3,095	44.4	12,531,058	4,049	2.2	6,968	574,949,017	82,513
Total lignite 2/	3	4.6	192,967	64,322	7.2	10	15.4	203,146	20,315	7.6	45	69.2	149,419	3,320	5.6	65	2,668,310	41,051
Grand total 7/	629	8.9	43,756,493	69,565	7.6	1,920	27.3	44,815,182	23,341	7.8	3,140	44.7	12,680,477	4,038	2.2	7,033	577,617,327	82,130

1/ Includes Maryland and Grant, Mineral, and Tucker Counties, West Virginia.
2/ Data for lignite by classes in Montana, North Dakota, South Dakota, and Texas not available for separate States, but are shown at end of table in combined form as "Total lignite."
3/ Includes Colfax County, New Mexico.
4/ Includes Arizona and California, but excludes Colfax County, New Mexico. No production was reported for California.
5/ Includes Idaho. No production was reported for Idaho.
6/ Includes Oregon.
7/ For purposes of historical comparison and statistical convenience, the figures include output of lignite and of anthracite and semianthracite outside of Pennsylvania.

LABOR STATISTICS

Men employed. - An average of 383,100 men was employed at bituminous-coal and lignite mines in 1945, a 2.6 percent decrease from the total of 393,347 for 1944 (see fig. 10).

The method used here in calculating employment gives an accurate measure of the working force in the coal industry, but it does not consider the time lost by men on the rolls through intermittent operations. To measure the influence of intermittency upon employment the factor of mine activity as indicated by the average number of days of plant operation was recorded separately. The average number of men employed when the mines were in operation was then used, in conjunction with the average number of days of operation, as a measure of the total volume of employment in the industry.

Days operated. - The average number of days of operation at bituminous-coal and lignite mines in 1945 was 261. This represents a decrease from the average of 278 days for 1944. All statistics on days of mine operation included in this report are weighted averages, in which the operating time of each mine has been weighted by the number of its employees. Several coal-mining States publish series on the number of days worked that are simple averages of the figures for each reporting mine, regardless of size. As these unweighted averages are likely to be unduly depressed by small mines, which generally operate fewer days than the larger ones, they tend to understate the working time of a typical mine employee.

Man-days of labor. - Man-days have been computed by multiplying the number of workers employed by the number of operating days. Although these computations were made for each individual mine, the combined total is necessarily only an approximation.

Data for 1945 indicate that bituminous-coal and lignite-mine employees performed 99,866,901 man-days of labor during the year. Table 22 gives a summary record of men employed, days operated, and output per man per day at bituminous-coal and lignite mines, by States, in 1945. Details by counties for 1945 are shown in table 54.

Length of working day. - Table 26 summarizes the replies of mine operators to the question, "Number of hours operated per shift."

The established working day does not of itself measure the length of time that men actually work or the time that they are underground, because of the possibility of overtime, because the mine may sometimes shut down before the full day is over, because the miner may go home before the mine stops, and because he spends a considerable time going to and from his place of work underground. These figures represent the operator's statement of the nominal operating day for the mine. They do not purport to represent the time actually worked by the men. On the one hand, they make no allowance for tonnage or piece workers who leave early; on the other hand, they make no allowance for tonnage men who continue at work after the mine as a whole is shut down, or who go into the mine to work on days when the tipple is idle.

It was found that 77 percent of the men employed were in 8-hour mines and that the weighted average working shift was 7.9 hours.

TABLE 26. - NUMBER OF BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES HAVING ESTABLISHED WORKING SHIFT OF CERTAIN LENGTH AND NUMBER OF MEN EMPLOYED THEREIN IN 1945

State	7 hours		8 hours		9 hours		All others 1/		Total	
	Mines	Men	Mines	Men	Mines	Men	Mines	Men	Mines	Men
Alabama	69	1,413	285	17,029	14	1,045	9	1,494	377	20,981
Alaska	---	---	4	250	---	---	1	85	5	335
Arizona	---	---	1	8	---	---	---	---	1	8
Arkansas	---	---	51	1,619	6	354	10	403	67	2,376
Colorado	18	132	119	5,695	12	179	17	424	166	6,430
Georgia	---	---	3	89	---	---	---	---	3	89
Illinois	144	10,526	152	20,125	1	20	16	577	313	31,248
Indiana	24	722	103	8,627	1	244	6	179	134	9,772
Iowa	12	181	85	1,871	6	48	14	271	117	2,371
Kansas	9	107	37	1,160	1	40	4	195	51	1,502
Kentucky:										
Eastern	22	363	1,010	38,056	27	2,158	14	2,502	1,073	43,079
Western	14	303	348	8,370	4	641	2	165	368	9,479
Total Kentucky	36	666	1,358	46,426	31	2,799	16	2,667	1,441	52,558
Maryland	10	48	64	1,040	14	410	6	237	94	1,735
Michigan	2	64	---	---	1	109	---	---	3	173
Missouri	14	211	69	1,724	1	9	2	27	86	1,971
Montana:										
Bituminous	2	6	21	883	2	15	1	234	26	1,138
Lignite	2	9	5	31	---	---	---	---	7	40
Total Montana	4	15	26	914	2	15	1	234	33	1,178
New Mexico	3	29	19	1,166	---	---	4	116	26	1,311
North Dakota (lignite)	2	29	35	482	3	17	13	229	53	757
Ohio	86	1,378	381	14,758	9	524	59	2,008	535	18,668
Oklahoma	10	59	53	1,459	7	301	6	411	76	2,230
Oregon	---	---	---	---	---	---	1	37	1	37
Pennsylvania	389	4,854	1,282	64,466	98	3,390	188	23,226	1,957	95,936
South Dakota (lignite)	---	---	3	13	1	2	---	---	4	15
Tennessee	34	545	101	5,742	---	---	5	185	140	6,472
Texas (lignite)	---	---	1	26	---	---	---	---	1	26
Utah	8	94	40	3,503	2	46	2	73	52	3,716
Virginia	15	110	115	13,511	7	311	8	729	145	14,661
Washington	7	43	32	1,176	3	37	4	119	46	1,375
West Virginia	118	2,675	783	77,942	49	3,413	108	16,588	1,058	100,618
Wyoming	6	56	38	4,383	2	69	2	43	48	4,551
Total	1,020	23,957	5,240	295,204	271	13,382	502	50,557	7,033	383,100

1/ Includes mines where the day was more than 9 or less than 7 hours or was irregular.

TABLE 27. - BITUMINOUS COAL AND LIGNITE LOADED FOR SHIPMENT BY RAILROADS AND WATERWAYS IN THE UNITED STATES, AS REPORTED BY MINE OPERATORS, IN NET TONS, IN 1945 1/

Route	State	Quantity	
		By State	Total for route
RAILROADS			
Alabama Central	Alabama	118,280	118,280
Alabama Great Southern	Alabama	230,710	230,710
Alaska	Alaska	264,132	264,132
Algiers, Winslow & Western	Indiana	2,812,726	2,812,726
Alton	Illinois	1,072,262	1,072,262
Artemus-Jellico	Kentucky	465,489	465,489
Atchison, Topeka & Santa Fe	Colorado	344,791	2,621,990
	Illinois	810,775	
	Kansas	497,926	
	Missouri	1,000	
	New Mexico	967,498	
Baltimore & Ohio	Illinois	463,326	51,434,330
	Indiana	713,110	
	Maryland	18,063	
	Ohio	4,949,894	
	Pennsylvania	13,839,131	
	West Virginia	31,450,806	
Bessemer & Lake Erie	Pennsylvania	3,401,445	3,401,445
Bevier & Southern	Missouri	427,583	427,583
Brimstone	Tennessee	58,400	58,400
Buffalo Creek & Gauley	West Virginia	855,757	855,757
Cambria & Indiana	Pennsylvania	3,926,745	3,926,745
Campbell's Creek	West Virginia	849,272	849,272
Carbon County	Utah	1,502,464	1,502,464
Central of Georgia	Alabama	861,179	899,880
	Georgia	38,701	
Chesapeake & Ohio	Kentucky	12,953,305	60,239,280
	Ohio	1,206,935	
	West Virginia	46,079,040	
Cheswick & Harmar	Pennsylvania	903,157	903,157
Chicago, Attica & Southern	Indiana	3,760	3,760
Chicago, Burlington & Quincy	Colorado	373,987	13,155,840
	Illinois	10,949,111	
	Iowa	289,851	
	Missouri	44,284	
	Wyoming	1,498,607	
Chicago & Eastern Illinois	Illinois	3,464,236	5,377,453
	Indiana	1,913,217	
Chicago & Illinois Midland	Illinois	6,366,103	6,366,103
Chicago, Indianapolis & Louisville	Indiana	805,622	805,622
Chicago, Milwaukee, St. Paul & Pacific	Indiana	6,149,709	7,518,567
	Iowa	287,518	
	Missouri	4,628	
	Montana (bituminous)	1,030,613	
	North Dakota (lignite)	33,739	
	South Dakota (lignite)	5,360	
	Washington	7,000	
Chicago & North Western	Illinois	3,203,937	3,203,937
Chicago, Rock Island & Pacific	Arkansas	47,127	1,018,071
	Illinois	540,158	
	Iowa	96,643	
	Missouri	226,419	
	Oklahoma	107,724	

See footnote at end of table.

TABLE 27. - BITUMINOUS COAL AND LIGNITE LOADED FOR SHIPMENT BY RAILROADS AND WATERWAYS IN THE UNITED STATES, AS REPORTED BY MINE OPERATORS, IN NET TONS, IN 1945 1/ - Continued

Route	State	Quantity	
		By State	Total for route
RAILROADS - Continued			
Cleveland, Cincinnati, Chicago, & St. Louis	Illinois	4,725,917	7,639,598
	Indiana	2,913,681	
Clinchfield	Kentucky	65,831	2,754,926
	Virginia	2,689,095	
Colorado & Southeastern	Colorado	125,958	125,958
Colorado & Southern	Colorado	502,729	502,729
Colorado & Wyoming	Colorado	576,113	576,113
Conemaugh & Black Lick	Pennsylvania	83,195	83,195
Cumberland & Pennsylvania	Maryland	469,106	469,106
Dardanelle & Russellville Ry. Co.	Arkansas	73,325	73,325
Denver & Intermountain	Colorado	107,905	107,905
Denver & Rio Grande Western	Colorado	1,760,635	5,025,232
	New Mexico	14,280	
	Utah	3,250,317	
Denver & Salt Lake	Colorado	1,097,260	1,097,260
Detroit, Toledo & Ironton	Ohio	10,420	10,420
East Broad Top Railroad & Coal Co.	Pennsylvania	539,093	539,093
Erie	Ohio	69,281	831,949
	Pennsylvania	762,668	
Evansville & Ohio Valley	Indiana	22,648	22,648
Evansville, Suburban & Newburgh	Indiana	249,215	249,215
Fort Dodge, Des Moines & Southern	Iowa	41,158	41,158
Fort Smith & Van Buren	Oklahoma	133,366	133,366
Galesburg & Great Eastern	Illinois	500,878	500,878
Great Northern	Montana (bituminous)	186,879	832,265
	North Dakota (lignite)	574,532	
	Washington	70,854	
Gulf, Mobile & Ohio	Alabama	275,895	1,697,114
	Illinois	1,421,219	
Harriman & Northeastern	Tennessee	60,100	60,100
Huntingdon & Broad Top Mountain Railroad & Coal Co.	Pennsylvania	737,432	737,432
Illinois Central	Alabama	197,882	25,547,694
	Illinois	14,950,449	
	Indiana	78,549	
	Kentucky	10,320,814	
Illinois Terminal	Illinois	492,769	492,769
Interstate	Kentucky	135,829	2,800,348
	Virginia	2,664,519	
Iowa Southern Utilities Company	Iowa	75,105	75,105
Johnstown & Stony Creek	Pennsylvania	264,916	264,916
Joplin-Pittsburg	Kansas	412,068	412,068
Kanawha Central	West Virginia	107,005	107,005
Kansas City Southern	Arkansas	64,580	910,905
	Missouri	815,709	
	Oklahoma	30,616	
Kansas, Oklahoma & Gulf	Oklahoma	12,561	12,561
Kelley's Creek & Northwestern	West Virginia	1,108,204	1,108,204
Kentucky & Tennessee	Kentucky	830,314	830,314
Lake Erie, Franklin & Clarion	Pennsylvania	260,225	260,225
Laramie, North Park & Western	Colorado	6,400	6,400
Ligonier Valley	Pennsylvania	105,456	105,456
Litchfield & Madison	Illinois	745,252	745,252

See footnote at end of table.

TABLE 27. - BITUMINOUS COAL AND LIGNITE LOADED FOR SHIPMENT BY RAILROADS AND WATERWAYS IN THE UNITED STATES, AS REPORTED BY MINE OPERATORS, IN NET TONS, IN 1945 1/ - Continued

Route	State	Quantity	
		By State	Total for route
RAILROADS - Continued			
Louisville and Nashville	Alabama	3,463,307	35,102,419
	Illinois	113,124	
	Kentucky	30,428,109	
	Tennessee	905,248	
	Virginia	192,631	
Mary Lee	Alabama	673,734	673,734
Midland Valley	Arkansas	254,516	511,195
	Oklahoma	256,679	
Minneapolis & St. Louis	Illinois	2,434,782	2,506,912
	Iowa	72,130	
Minneapolis, St. Paul & Sault Ste. Marie	North Dakota (lignite)	609,341	609,341
Missouri-Illinois	Illinois	18,454	18,454
Missouri-Kansas-Texas	Kansas	247,553	945,502
	Missouri	298,172	
	Oklahoma	399,777	
Missouri Pacific	Arkansas	1,005,117	10,467,741
	Illinois	7,743,363	
	Kansas	1,059,512	
	Missouri	411,849	
	Oklahoma	247,900	
Monessen Southwestern	Pennsylvania	19,045	19,045
Monongahela	Pennsylvania	3,142,075	10,913,072
	West Virginia	7,770,997	
Montana, Wyoming & Southern	Montana (bituminous)	524,664	524,664
Montour	Pennsylvania	6,665,433	6,665,433
Nashville, Chattanooga & St. Louis	Alabama	2,334	847,787
	Tennessee	845,453	
New York Central (includes coal shipped over Kanawha and Michigan, Kelley's Creek, Toledo and Ohio Central, and Zanesville and Western)	Ohio	7,010,475	14,227,456
	Pennsylvania	5,534,768	
	West Virginia	1,682,213	
Nicholas, Fayette & Greenbrier	West Virginia	2,865,755	2,865,755
Norfolk & Western	Kentucky	5,515,663	46,372,693
	Virginia	9,679,348	
	West Virginia	31,177,682	
Northern Pacific	Montana (bituminous)	2,552,403	4,031,382
	North Dakota (lignite)	805,645	
	Washington	673,334	
Oklahoma City-Ada-Atoka	Oklahoma	275,266	275,266
Oneida & Western	Tennessee	10,000	10,000
Pacific Coast	Washington	110,086	110,086
Pennsylvania (includes Pittsburgh, Cincinnati, Chicago and St. Louis)	Illinois	147,138	53,537,712
	Indiana	4,732,453	
	Ohio	6,369,520	
	Pennsylvania	41,777,919	
	West Virginia	510,682	
Peoria Terminal	Illinois	382,011	382,011
Pere Marquette	Michigan	49,803	49,803
Pittsburg & Lake Erie	Pennsylvania	2,534,023	2,534,023
Pittsburg & Shawmut	Pennsylvania	2,476,150	2,476,150
Pittsburg, Shawmut & Northern	Pennsylvania	287,756	287,756
Pittsburgh, Chartiers & Youghiogheny	Pennsylvania	50,664	50,664
Pittsburgh, Lisbon & Western	Ohio	10,319	10,319

See footnote at end of table.

TABLE 27. - BITUMINOUS COAL AND LIGNITE LOADED FOR SHIPMENT BY RAILROADS AND WATERWAYS IN THE UNITED STATES, AS REPORTED BY MINE OPERATORS, IN NET TONS, IN 1945 1/ - Continued

Route	State	Quantity	
		By State	Total for route
RAILROADS - Continued			
Pittsburgh & West Virginia	Ohio	910,985	2,308,081
	Pennsylvania	1,148,899	
	West Virginia	248,197	
Preston	West Virginia	83,267	83,267
Rio Grande Southern	Colorado	11,915	11,915
Rockdale, Sandow & Southern	Texas (lignite)	79,051	79,051
St. Louis & O'Fallon	Illinois	367,370	367,370
St. Louis-San Francisco	Alabama	2,212,768	4,970,272
	Arkansas	337,360	
	Kansas	783,461	
	Missouri	378,838	
	Oklahoma	1,257,845	
Seaboard Air Line	Alabama	35,861	35,861
Southern	Alabama	3,504,989	10,574,628
	Illinois	130,684	
	Indiana	2,002,277	
	Kentucky	1,369,952	
	Tennessee	2,474,154	
	Virginia	1,092,572	
Southern Pacific	New Mexico	360,517	368,235
	Oregon	7,718	
Springfield & Southwestern	Illinois	58,355	58,355
Springfield Terminal	Illinois	852,735	852,735
Tennessee	Tennessee	985,703	985,703
Tennessee Central	Tennessee	389,188	389,188
Tennessee Coal, Iron & Railroad Co.	Alabama	2,923,495	2,923,495
Thomas & Sayreton	Alabama	501,780	501,780
Toledo, Peoria & Western	Illinois	45,568	45,568
Union	Pennsylvania	482,518	482,518
Union Pacific	Colorado	909,462	9,044,802
	Utah	4,429	
	Washington	57,689	
	Wyoming	8,073,222	
Unity	Pennsylvania	744,518	744,518
Utah	Utah	1,627,307	1,627,307
Virginian	Virginia	166,428	12,401,244
	West Virginia	12,234,816	
Wabash	Illinois	2,766,029	3,375,567
	Iowa	197,588	
	Missouri	411,950	
West Virginia Northern	West Virginia	646,526	646,526
Western Allegheny	Pennsylvania	278,987	278,987
Western Maryland	Maryland	970,130	5,938,384
	Pennsylvania	376,660	
	West Virginia	4,591,594	
Wheeling & Lake Erie	Ohio	5,880,848	5,880,848
Winifrede	West Virginia	210,221	210,221
Woodward Iron Company	Alabama	923,872	923,872
Youngstown & Suburban	Ohio	11,853	11,853
Total railroad shipments	....	490,471,988	490,471,988

See footnote at end of table.

TABLE 27. - BITUMINOUS COAL AND LIGNITE LOADED FOR SHIPMENT BY RAILROADS AND WATERWAYS IN THE UNITED STATES, AS REPORTED BY MINE OPERATORS, IN NET TONS, IN 1945 1/ - Continued

Route	State	Quantity	
		By State	Total for route
WATERWAYS			
Allegheny River	Pennsylvania	1,092,975	1,092,975
Black Warrior River	Alabama	433,772	433,772
Cheat River	Pennsylvania	784	784
Illinois River	Illinois	536,771	536,771
Kanawha River	West Virginia	1,486,566	1,486,566
Monongahela River	Pennsylvania	21,285,503	22,366,501
	West Virginia	1,080,998	
Muskingum River	Ohio	307,536	307,536
Ohio River	Kentucky	378,083	1,207,610
	Ohio	110,808	
	West Virginia	718,719	
Tennessee River	Tennessee	115,164	115,164
Total waterway shipments		27,547,679	27,547,679
Total loaded at mines for shipment by railroads and waterways		518,019,667	518,019,667
Shipped by truck or wagon		41,477,428	41,477,428
Taken by locomotive tender at tipple		694,555	694,555
Shipped by conveyor or tram to point of consumption		6,416,327	6,416,327
Coal used by employees		2,660,039	2,660,039
Used at mine for power and heat		2,442,398	2,442,398
Made into beehive coke at mine		5,906,913	5,906,913
Total production		577,617,327	577,617,327

1/ Includes coal loaded at mine directly into railroad cars or river barges, hauled by truck to railroad siding for shipment by rail, and hauled by truck to waterway for shipment by water. In general, the figures show the quantity of bituminous coal and lignite originated for each railroad and waterway as reported by the mine operators. It must be noted that in one year an operator may report coal loaded on the subsidiary railroad and in another year the same operator may report coal loaded on the parent railroad system.

TABLE 28. - BITUMINOUS COAL AND LIGNITE MINED BY DIFFERENT METHODS IN THE UNITED STATES, BY STATES, IN 1945

State	From underground workings							From strip pits		Grand total production (net tons)
	Mined by hand		Shot from the solid		Cut by machines		Total underground (net tons)	Net tons	Percent of grand total	
	Net tons	Percent of total underground	Net tons	Percent of total underground	Net tons	Percent of total underground				
Alabama	261,012	1.6	3,596,614	22.0	12,488,094	76.4	16,345,720	1,890,819	10.4	18,236,539
Alaska	---	---	297,644	100.0	---	---	297,644	---	---	297,644
Arizona	---	---	3,853	100.0	---	---	3,853	---	---	3,853
Arkansas	16,104	1.4	110,500	9.3	1,055,498	89.3	1,182,102	671,824	36.2	1,853,926
Colorado	1,177,185	15.6	191,028	2.5	6,199,988	81.9	7,568,201	52,811	.7	7,621,012
Georgia	---	---	32,347	100.0	---	---	32,347	10,221	24.0	42,568
Illinois	61,789	.1	2,682,787	4.8	53,357,516	95.1	56,102,092	16,909,100	23.2	73,011,192
Indiana	55,371	.5	223,072	1.9	11,440,079	97.6	11,718,522	13,464,089	53.5	25,182,611
Iowa	49,689	3.3	560,984	36.8	913,869	59.9	1,524,542	521,058	25.5	2,045,600
Kansas	49,078	18.0	24,295	8.9	199,686	73.1	273,059	2,955,500	91.5	3,228,559
Kentucky	1,353,152	2.2	7,170,064	11.4	54,374,881	86.4	62,898,097	6,694,839	9.6	69,592,936
Maryland	960,233	62.1	---	---	584,944	37.9	1,545,177	217,526	12.3	1,762,703
Michigan	---	---	---	---	125,704	100.0	125,704	---	---	125,704
Missouri	29,780	6.1	61,129	12.4	399,513	81.5	490,422	3,492,302	87.7	3,982,724
Montana (bituminous)	3,320	.2	6,699	.3	1,859,964	99.5	1,869,983	2,555,208	57.7	4,425,191
Montana (lignite)	---	---	40,464	100.0	---	---	40,464	1,133	2.7	41,597
New Mexico	164,271	11.1	197,634	13.3	1,120,301	75.6	1,482,206	1,480	.1	1,483,686
North Dakota (lignite)	12,943	1.9	26,168	4.0	623,534	94.1	662,645	1,859,674	73.7	2,522,319
Ohio	79,202	.4	86,093	.5	19,088,351	99.1	19,253,646	13,483,789	41.2	32,737,435
Oklahoma	1,351	.1	106,487	8.3	1,172,720	91.6	1,280,558	1,628,418	56.0	2,908,976
Oregon	---	---	200	1.2	16,300	98.8	16,500	---	---	16,500
Pennsylvania	10,315,628	9.8	3,533,278	3.4	91,408,767	86.8	105,257,673	27,707,670	20.8	132,965,343
South Dakota (lignite)	---	---	3,033	100.0	---	---	3,033	21,412	87.6	24,445
Tennessee	280,727	4.6	1,128,605	18.6	4,654,913	76.8	6,064,245	206,463	3.3	6,270,708
Texas (lignite)	---	---	---	---	---	---	---	79,949	100.0	79,949
Utah	11,666	.2	68,424	1.0	6,598,973	98.8	6,679,063	---	---	6,679,063
Virginia	156,237	.9	1,032,853	6.1	15,737,013	93.0	16,926,103	308,890	---	17,234,993
Washington	94,444	7.8	537,137	44.6	573,852	47.6	1,205,433	151,811	11.2	1,357,244
West Virginia	3,492,432	2.5	2,295,132	1.7	132,000,913	95.8	137,788,477	14,246,255	9.4	152,034,732
Wyoming	132,983	1.5	128,909	1.4	8,731,059	97.1	8,992,951	854,624	8.7	9,847,575
Total	18,758,597	4.0	24,145,433	5.2	424,726,432	90.8	467,630,462	109,986,865	19.0	577,617,327

TABLE 29. - BITUMINOUS COAL AND LIGNITE MINED BY DIFFERENT METHODS IN THE UNITED STATES, BY DISTRICTS, IN 1945

(Districts as defined in the Bituminous Coal Act of 1937 and modifications thereto)

Minimum Price Area and Producing District	From underground workings							From strip pits		Grand total production (net tons)
	Mined by hand		Shot from the solid		Cut by machines		Total underground (net tons)			
	Net tons	Percent of total underground	Net tons	Percent of total underground	Net tons	Percent of total underground		Net tons	Percent of grand total	
PRICE AREA 1										
Dist. 1. Eastern Pennsylvania 1/	8,217,745	19.1	1,265,909	2.9	33,632,633	78.0	43,116,287	13,630,115	24.0	56,746,402
Dist. 2. Western Pennsylvania	3,216,829	5.0	2,296,430	3.6	58,857,058	91.4	64,370,317	14,697,667	18.6	79,067,984
Dist. 3. Northern West Virginia	1,133,374	3.3	1,214,639	3.6	31,807,298	93.1	34,155,311	10,810,908	24.0	44,966,219
Dist. 4. Ohio	79,202	.4	86,093	.5	19,088,351	99.1	19,253,646	13,483,789	41.2	32,737,435
Dist. 5. Michigan	—	—	—	—	125,704	100.0	125,704	—	—	125,704
Dist. 6. Panhandle	1,994	.1	—	—	3,657,227	99.9	3,659,221	949,818	20.6	4,609,039
Dist. 7. Southern Numbered 1	2,042,663	3.7	690,095	1.3	51,567,305	95.0	54,300,063	1,706,468	3.0	56,006,531
Dist. 8. Southern Numbered 2	1,605,389	1.4	7,233,545	6.3	106,218,736	92.3	115,057,670	1,691,068	1.4	116,748,738
Total Price Area 1	16,297,196	4.9	12,786,711	3.8	304,954,312	91.3	334,038,219	56,969,833	14.6	391,008,052
PRICE AREA 2										
Dist. 9. West Kentucky	333,385	2.3	1,674,708	11.4	12,628,568	86.3	14,636,661	5,807,711	28.4	20,444,372
Dist. 10. Illinois	61,789	.1	2,682,787	4.8	53,357,516	95.1	56,102,092	16,909,100	23.2	73,011,192
Dist. 11. Indiana	55,371	.5	223,072	1.9	11,440,079	97.6	11,718,522	13,464,089	53.5	25,182,611
Dist. 12. Iowa	49,689	3.3	560,984	36.8	913,869	59.9	1,524,542	521,058	25.5	2,045,600
Total Price Area 2	500,234	.6	5,141,551	6.1	78,340,032	93.3	83,981,817	36,701,958	30.4	120,683,775
PRICE AREA 3										
Dist. 13. Southeastern	268,042	1.5	4,413,567	25.1	12,880,700	73.4	17,562,309	1,988,928	10.2	19,551,237
PRICE AREA 4										
Dist. 14. Arkansas-Oklahoma	17,455	1.1	162,956	10.7	1,349,693	88.2	1,530,104	731,027	32.3	2,261,131
PRICE AREA 5										
Dist. 15. Southwestern:										
Bituminous	78,858	4.7	139,455	8.2	1,477,724	87.1	1,696,037	8,017,017	82.5	9,713,054
Lignite (Texas)	—	—	—	—	—	—	—	79,949	100.0	79,949
Total Price Area 5	78,858	4.7	139,455	8.2	1,477,724	87.1	1,696,037	8,096,966	82.7	9,793,003
PRICE AREA 6										
Dist. 16. Northern Colorado	102,050	4.4	10,369	.4	2,227,289	95.2	2,339,708	10,896	.5	2,350,604
Dist. 17. Southern Colorado 2/	1,150,912	18.2	180,659	2.9	4,992,356	78.9	6,323,927	41,915	.7	6,365,842
Dist. 18. New Mexico 3/	88,494	22.6	201,487	51.6	100,644	25.8	390,625	1,480	.4	392,105
Total Price Area 6	1,341,456	14.8	392,515	4.3	7,320,289	80.9	9,054,260	54,291	.6	9,108,551
PRICE AREA 7										
Dist. 19. Wyoming 4/	132,983	1.5	128,909	1.4	8,731,059	97.1	8,992,951	854,624	8.7	9,847,575
Dist. 20. Utah	11,666	.2	68,424	1.0	6,598,973	98.8	6,679,063	—	—	6,679,063
Total Price Area 7	144,649	.9	197,333	1.3	15,330,032	97.8	15,672,014	854,624	5.2	16,526,638
PRICE AREA 8										
Dist. 21. North-South Dakota (lignite).	12,943	1.9	29,201	4.4	623,534	93.7	665,678	1,881,086	73.9	2,546,764
PRICE AREA 9										
Dist. 22. Montana	3,320	.2	47,163	2.5	1,859,964	97.3	1,910,447	2,556,341	57.2	4,466,788
PRICE AREA 10										
Dist. 23. Washington 5/	94,444	7.7	537,337	44.0	590,152	48.3	1,221,933	151,811	11.1	1,373,744
Alaska	—	—	297,644	100.0	—	—	297,644	—	—	297,644
Total Price Area 10	94,444	6.2	834,981	55.0	590,152	38.8	1,519,577	151,811	9.1	1,671,388
Grand total 6/	18,758,597	4.0	24,145,433	5.2	424,726,432	90.8	467,630,462	109,986,865	19.0	577,617,327

1/ Includes Maryland, and Grant, Mineral, and Tucker Counties, West Virginia.
2/ Includes Colfax County, New Mexico.
3/ Includes Arizona and California, but excludes Colfax County, New Mexico. No production was reported for California.
4/ Includes Idaho. No production was reported for Idaho.
5/ Includes Oregon.
6/ For purposes of historical comparison and statistical convenience, the figures include the output of lignite and of anthracite and semianthracite outside of Pennsylvania.

TABLE 30. - NUMBER OF COAL-CUTTING MACHINES IN BITUMINOUS-COAL AND LIGNITE MINES, AVERAGE OUTPUT PER MACHINE, AND PERCENTAGE OF TOTAL PRODUCT OF UNDERGROUND MINES CUT BY MACHINE IN THE UNITED STATES, BY STATES, IN 1944 AND 1945

State	1944					1945				
	Number of coal-cutting machines in use			Average output per machine (net tons)	Percent of total product of underground mines cut by machine	Number of coal-cutting machines in use			Average output per machine (net tons)	Percent of total product of underground mines cut by machine
	Permissible	Other	Total			Permissible	Other	Total		
Alabama	268	326	594	23,034	77.9	291	350	641	19,482	76.4
Alaska	2	---	2	673	.4	---	---	---	----	---
Arkansas	27	61	88	13,065	86.0	26	52	78	13,532	89.3
Colorado	175	321	496	12,825	78.0	202	313	515	12,039	81.9
Illinois	287	541	828	67,402	94.9	289	512	801	66,614	95.1
Indiana	64	185	249	54,355	97.8	95	144	239	47,866	97.6
Iowa	43	43	86	11,343	59.9	33	46	79	11,568	59.9
Kansas	13	13	26	7,861	70.7	8	12	20	9,984	73.1
Kentucky	553	1,119	1,672	34,823	88.1	572	1,178	1,750	31,071	86.4
Maryland	21	26	47	14,040	38.0	21	27	48	12,186	37.9
Michigan	4	16	20	6,997	100.0	---	18	18	6,984	100.0
Missouri	23	45	68	8,968	83.7	28	30	58	6,888	81.5
Montana (bituminous) ...	10	54	64	35,334	99.2	7	50	57	32,631	99.5
New Mexico	41	36	77	14,815	65.4	41	36	77	14,549	75.6
North Dakota (lignite) .	10	5	15	44,123	93.3	13	3	16	38,971	94.1
Ohio	325	519	844	26,102	99.2	262	523	785	24,316	99.1
Oklahoma	71	75	146	9,674	90.7	70	58	128	9,162	91.6
Oregon	---	---	---	----	---	2	---	2	8,150	98.8
Pennsylvania	2,356	1,075	3,431	30,833	85.6	2,304	1,096	3,400	26,885	86.8
Tennessee	26	209	235	23,127	76.0	23	221	244	19,078	76.8
Utah	161	55	216	32,477	98.5	165	59	224	29,460	98.8
Virginia	127	234	361	49,083	91.6	123	245	368	42,764	93.0
Washington	62	---	62	11,315	47.9	58	---	58	9,894	47.6
West Virginia	1,104	2,245	3,349	43,393	95.7	1,187	2,270	3,457	38,184	95.8
Wyoming	37	292	329	26,197	96.1	15	312	327	26,700	97.1
Total	5,810	7,495	13,305	35,284	90.5	5,835	7,555	13,390	31,720	90.8

TABLE 31. - STRIPPING OPERATIONS OF ALL TYPES IN THE BITUMINOUS-COAL AND LIGNITE FIELDS OF THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 1/

State and county	Number of strip pits	Number of power shovels and dragline excavators			Mined by stripping (net tons)	Average number of employees			Average number of days mines were active	Number of man-days worked	Average tons per man per day
		Steam	Electric	All others		In strip pits	All others	Total			
Alabama:											
Bibb and Marion	4	—	—	7	69,690	62	6	68	126	8,569	8.13
Blount	3	6	—	1	57,282	53	13	66	208	13,740	4.17
Jefferson	11	1	—	19	430,945	176	53	229	213	48,673	8.85
St. Clair	3	—	—	5	109,953	78	10	88	197	17,360	6.33
Tuscaloosa	4	—	—	6	157,850	61	16	77	235	18,075	8.73
Walker	27	2	2	38	1,042,689	472	144	616	193	118,939	8.77
Winston	1	—	—	3	22,410	16	4	20	140	2,800	8.00
Total Alabama	53	9	2	79	1,890,819	918	246	1,164	196	228,156	8.29
Arkansas:											
Franklin, Pope, and Scott	6	3	—	8	193,024	126	51	177	152	26,876	7.18
Johnson	5	—	—	7	184,712	91	15	106	189	19,993	9.24
Sebastian	12	—	—	19	294,088	200	56	256	130	33,396	8.81
Total Arkansas	23	3	—	34	671,824	417	122	539	149	80,265	8.37
Colorado:											
Jackson	2	—	—	1	10,896	8	1	9	182	1,639	6.65
Routt	3	—	—	4	41,915	30	15	45	120	5,390	7.78
Total Colorado	5	—	—	5	52,811	38	16	54	130	7,029	7.51
Georgia:											
Walker	1	—	—	1	10,221	10	—	10	175	1,750	5.84
Total Georgia	1	—	—	1	10,221	10	—	10	175	1,750	5.84
Illinois:											
Bureau	1	—	2	—	83,248	14	18	32	225	7,211	11.54
Fulton	10	—	23	12	6,747,746	525	624	1,149	255	292,784	23.05
Gallatin	1	1	—	—	22,845	10	6	16	124	1,984	11.51
Grundy, La Salle, and Schuyler	6	—	18	4	1,723,119	300	231	531	292	154,856	11.13
Henry	1	—	2	1	422,457	50	73	123	272	33,456	12.63
Jackson	1	—	4	—	515,287	48	50	98	278	27,260	18.90
Knox	1	—	3	1	500,878	30	64	94	360	33,840	14.80
Livingston	1	—	—	1	7,659	8	—	8	227	1,816	4.22
Perry	3	—	13	3	2,832,178	288	315	603	249	150,078	18.87
Randolph	1	—	1	1	1,150,907	57	54	111	301	33,411	34.45
St. Clair	3	—	5	6	941,553	92	80	172	285	49,073	19.19
Saline	3	—	2	9	651,515	113	105	218	239	52,061	12.51
Vermilion	3	—	—	3	82,942	21	4	25	162	4,060	20.43
Will	2	—	2	1	456,240	70	60	130	281	36,498	12.50
Williamson	6	—	4	7	770,526	117	79	196	178	34,851	22.11
Total Illinois	43	1	79	49	16,909,100	1,743	1,763	3,506	260	913,239	18.52

See footnote at end of table.

TABLE 31. - STRIPPING OPERATIONS OF ALL TYPES IN THE BITUMINOUS-COAL AND LIGNITE FIELDS OF THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 1/ - Continued

State and county	Number of strip pits	Number of power shovels and dragline excavators			Mined by stripping (net tons)	Average number of employees			Average number of days mines were active	Number of man-days worked	Average tons per man per day
		Steam	Electric	All others		In strip pits	All others	Total			
Indiana:											
Clay	17	1	10	28	1,834,687	362	226	588	236	138,582	13.24
Daviess and Fountain	3	—	—	4	98,563	19	17	36	277	9,962	9.89
Greene	5	4	2	1	501,654	152	74	226	129	29,072	17.26
Knox	1	—	2	2	886,008	47	84	131	275	36,039	24.58
Owen	1	—	—	1	1,962	5	—	5	64	320	6.13
Pike	10	1	14	13	4,036,673	422	464	886	249	220,371	18.32
Spencer	4	—	—	7	174,586	56	20	76	190	14,446	12.09
Sullivan	5	—	10	2	1,709,740	248	222	470	352	165,427	10.34
Vermillion	3	—	2	4	307,007	57	63	120	164	19,629	15.64
Vigo	7	—	2	14	1,030,759	120	82	202	249	50,373	20.46
Warrick	5	—	9	7	2,882,450	342	228	570	287	163,363	17.64
Total Indiana	61	6	51	83	13,464,089	1,830	1,480	3,310	256	847,584	15.89
Iowa:											
Davis	1	—	—	1	6,192	6	6	12	57	680	9.11
Mahaska	8	2	1	12	177,859	77	40	117	255	29,824	5.96
Marion	7	—	—	16	251,865	61	45	106	204	21,632	11.64
Monroe and Van Buren	3	—	—	3	16,961	17	4	21	225	4,735	3.58
Wapello	4	—	—	9	68,181	41	6	47	129	6,041	11.29
Total Iowa	23	2	1	41	521,058	202	101	303	208	62,912	8.28
Kansas:											
Bourbon	4	1	2	1	172,850	46	19	65	217	14,129	12.23
Cherokee	11	4	7	5	1,256,403	246	147	393	246	96,496	13.02
Crawford	10	8	12	4	1,516,896	315	132	447	255	113,921	13.32
Labette and Osage	4	2	—	3	9,351	17	1	18	145	2,608	3.59
Total Kansas	29	15	21	13	2,955,500	624	299	923	246	227,154	13.01
Kentucky:											
Boyd	1	—	—	2	2,132	17	3	20	31	620	3.44
Butler	1	—	—	2	60,000	14	6	20	208	4,160	14.42
Christian	1	—	—	2	1,193	12	8	20	26	516	2.31
Clay	2	—	—	2	26,341	36	8	44	119	5,246	5.02
Daviess	2	—	—	3	137,000	32	3	35	160	5,598	24.47
Elliott, Ohio, and Rockcastle	4	1	—	6	174,693	43	34	77	220	16,976	10.29
Hopkins	18	1	8	30	4,537,871	420	296	716	274	196,373	23.11
Laurel	4	1	—	5	202,386	90	20	110	194	21,380	9.47
Muhlenberg	6	—	1	16	670,842	142	76	218	198	43,143	15.55
Perry	1	—	—	4	183,473	53	8	61	199	12,139	15.11
Pike	1	—	—	8	313,661	47	35	82	181	14,840	21.14
Pulaski	3	—	—	4	67,500	27	8	35	277	9,685	6.97
Webster	3	—	—	6	235,747	44	16	60	214	12,828	18.38
Whitley	1	—	1	2	82,000	18	22	40	222	8,880	9.23
Total Kentucky	48	3	10	92	6,694,839	995	543	1,538	229	352,384	19.00

See footnote at end of table.

TABLE 31. - STRIPPING OPERATIONS OF ALL TYPES IN THE BITUMINOUS-COAL AND LIGNITE FIELDS OF THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 1/ - Continued

State and county	Number of strip pits	Number of power shovels and dragline excavators			Mined by stripping (net tons)	Average number of employees			Average number of days mines were active	Number of man-days worked	Average tons per man per day
		Steam	Electric	All others		In strip pits	All others	Total			
Maryland:											
Allegany	7	—	1	9	207,527	109	27	136	170	23,103	8.98
Garrett	3	—	—	2	9,999	32	8	40	63	2,520	3.97
Total Maryland	10	—	1	11	217,526	141	35	176	146	25,623	8.49
Missouri:											
Barton	5	2	3	2	222,755	57	27	84	197	16,518	13.49
Bates	3	2	4	2	993,565	116	100	216	233	50,429	19.70
Boone	1	—	—	2	51,410	11	2	13	272	3,534	14.55
Callaway	3	1	2	5	189,406	65	30	95	307	29,130	6.50
Dade	3	—	—	4	7,480	9	—	9	235	2,118	3.53
Henry	7	—	7	3	643,295	97	43	140	246	34,392	18.70
Jasper	1	1	—	—	4,505	6	—	6	218	1,308	3.44
Johnson, Moniteau, and Randolph	3	—	2	2	464,643	62	42	104	226	23,462	19.80
Macon	1	—	2	—	476,635	88	66	154	244	37,604	12.68
Monroe	1	—	—	1	6,484	9	—	9	308	2,772	2.34
Vernon	8	4	3	5	432,124	119	25	144	248	35,683	12.11
Total Missouri	36	10	23	26	3,492,302	639	335	974	243	236,950	14.74
Montana:											
McCone (lignite)	1	—	—	1	1,133	2	—	2	135	270	4.20
Rosebud (bituminous)	1	—	7	1	2,555,208	86	20	106	303	32,122	79.55
Total Montana	2	—	7	2	2,556,341	88	20	108	300	32,392	78.92
New Mexico:											
McKinley	1	—	—	1	1,480	8	3	11	60	660	2.24
Total New Mexico	1	—	—	1	1,480	8	3	11	60	660	2.24
North Dakota: Lignite	30	3	14	26	1,859,674	282	161	443	220	97,573	19.06
Ohio:											
Athens	5	—	2	7	295,981	66	53	119	176	20,929	14.14
Belmont	15	—	2	35	1,194,966	305	85	390	168	65,421	18.27
Carroll	3	2	—	9	192,941	55	20	75	257	19,246	10.02
Columbiana	16	—	—	29	663,494	144	60	204	235	47,843	13.87
Coshocton	3	2	—	2	53,028	34	15	49	95	4,637	11.44
Guernsey, Holmes, Meigs, Morgan, Portage, and Wayne.	8	—	—	15	289,307	99	48	147	151	22,180	13.04
Harrison	11	—	11	27	4,428,403	647	286	933	258	240,599	18.41
Hocking	5	—	1	11	258,516	74	49	123	166	20,475	12.63
Jackson	5	—	—	5	33,785	17	6	23	171	3,925	8.61
Jefferson	26	7	5	43	2,927,715	477	261	738	224	165,457	17.69
Mahoning	6	2	—	6	173,122	63	13	76	177	13,420	12.90
Muskingum	4	1	—	8	525,334	60	20	80	278	22,245	23.62
Noble	4	—	—	8	221,942	52	20	72	143	10,298	21.55
Perry	30	4	3	51	976,797	357	99	456	161	73,571	13.28
Stark	5	1	—	12	218,824	63	24	87	259	22,551	9.70
Tuscarawas	17	2	2	30	932,931	199	73	272	262	71,386	13.07
Vinton	9	—	—	11	96,703	65	11	76	187	14,230	6.80
Total Ohio	172	21	26	309	13,483,789	2,777	1,143	3,920	214	838,413	16.08

See footnote at end of table.

TABLE 31. - STRIPPING OPERATIONS OF ALL TYPES IN THE BITUMINOUS-COAL AND LIGNITE FIELDS OF THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 1/ - Continued

State and county	Number of strip pits	Number of power shovels and dragline excavators			Mined by stripping (net tons)	Average number of employees			Average number of days mines were active	Number of man-days worked	Average tons per man per day
		Steam	Electric	All others		In strip pits	All others	Total			
Oklahoma:											
Coal	3	—	3	5	296,337	69	36	105	220	23,069	12.85
Craig	1	—	—	1	8,216	8	—	8	234	1,872	4.39
Haskell	3	1	—	3	59,203	36	4	40	223	8,915	6.64
Latimer, Okmulgee, and Pittsburg	3	—	—	7	78,741	50	26	76	88	6,654	11.83
Muskogee	2	2	—	—	138,345	51	15	66	266	17,530	7.89
Rogers	3	5	3	—	453,855	91	59	150	262	39,226	11.57
Wagoner	3	—	3	2	593,721	81	53	134	246	32,900	18.05
Total Oklahoma	18	8	9	18	1,628,418	386	193	579	225	130,166	12.51
Pennsylvania:											
Allegheny	68	1	—	117	4,040,023	860	312	1,172	202	237,031	17.04
Armstrong	22	2	—	40	1,304,418	385	103	488	179	87,389	14.93
Beaver	7	—	—	10	174,702	67	22	89	234	20,789	8.40
Bedford	5	1	—	11	217,985	94	38	132	129	17,074	12.77
Blair	1	—	—	1	23,977	6	3	9	265	2,385	10.05
Butler	24	6	—	32	647,616	249	58	307	183	56,099	11.54
Cambria	29	1	—	40	823,519	321	99	420	133	55,848	14.75
Centre	17	5	—	28	616,831	266	69	335	207	69,227	8.91
Clarion	26	—	—	55	1,998,865	527	166	693	242	167,518	11.93
Clearfield	105	8	—	130	3,291,462	1,410	426	1,836	157	287,553	11.45
Clinton, Elk, McKean, and Venango	7	1	—	10	110,557	49	18	67	156	10,443	10.59
Fayette	43	5	—	44	1,246,843	351	90	441	167	73,617	16.94
Greene	11	—	—	12	326,486	109	30	139	187	26,055	12.53
Huntingdon	7	—	—	18	366,978	199	29	228	172	39,155	9.37
Indiana	45	3	2	74	2,270,731	692	207	899	188	169,114	13.43
Jefferson	23	1	—	25	619,133	241	70	311	150	46,641	13.27
Lawrence	5	—	—	7	115,572	25	10	35	214	7,482	15.45
Lycoming	1	—	—	1	12,465	8	2	10	172	1,720	7.25
Mercer	7	—	—	11	465,356	89	27	116	256	29,639	15.70
Somerset	36	1	—	50	1,455,036	383	139	522	207	107,896	13.49
Tioga	4	2	—	3	47,596	34	8	42	138	5,788	8.22
Washington	36	5	3	77	5,042,948	846	355	1,201	243	291,522	17.30
Westmoreland	69	3	3	76	2,488,571	736	140	876	177	155,232	16.03
Total Pennsylvania	598	45	8	872	27,707,670	7,947	2,421	10,368	190	1,965,217	14.10
South Dakota: Lignite	2	—	—	2	21,412	11	—	11	295	3,241	6.61
Tennessee:											
Anderson	3	—	—	3	12,680	19	2	21	123	2,582	4.91
Campbell	2	—	—	3	59,221	29	17	46	142	6,516	9.09
Hamilton and Scott	3	—	—	6	134,562	62	9	71	173	12,294	10.95
Total Tennessee	8	—	—	12	206,463	110	28	138	155	21,392	9.65
Texas: Lignite	1	2	—	—	79,949	19	7	26	158	4,096	19.52
Virginia:											
Buchanan	1	—	—	2	153,830	28	9	37	228	8,430	18.25
Wise	7	—	—	9	155,060	70	18	88	152	13,398	11.57
Total Virginia	8	—	—	11	308,890	98	27	125	175	21,828	14.15

See footnote at end of table.

TABLE 31. - STRIPPING OPERATIONS OF ALL TYPES IN THE BITUMINOUS-COAL AND LIGNITE FIELDS OF THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 1/ - Continued

State and county	Number of strip pits	Number of power shovels and dragline excavators			Mined by stripping (net tons)	Average number of employees			Average number of days mines were active	Number of man-days worked	Average tons per man per day
		Steam	Electric	All others		In strip pits	All others	Total			
Washington:											
King	4	—	—	4	63,398	65	15	80	104	8,313	7.63
Kittitas	2	—	2	2	88,413	35	14	49	252	12,334	7.17
Total Washington	6	—	2	6	151,811	100	29	129	160	20,647	7.35
West Virginia:											
Barbour	15	—	—	26	1,043,884	290	89	379	211	79,875	13.07
Boone, Gilmer, and Tucker	5	—	—	8	265,090	96	24	120	197	23,670	11.20
Brooke	9	1	—	17	747,761	177	37	214	209	44,779	16.70
Clay	1	—	—	1	1,253	4	2	6	19	114	10.99
Fayette	15	2	—	25	1,012,740	371	89	460	160	73,523	13.77
Greenbrier	10	2	—	20	357,054	165	38	203	199	40,423	8.83
Hancock	3	2	—	5	68,721	36	10	46	149	6,865	10.01
Harrison	66	—	—	136	7,098,740	1,515	564	2,079	207	431,158	16.46
Marion	12	—	—	12	680,678	196	79	275	141	38,641	17.62
Marshall	1	2	—	—	133,336	11	4	15	204	3,060	43.57
McDowell	1	—	—	2	115,854	23	7	30	228	6,852	16.91
Mineral	3	—	—	6	201,086	59	21	80	150	12,022	16.73
Mingo	1	—	—	3	160,269	26	15	41	279	11,439	14.01
Monongalia	9	—	—	20	619,679	159	48	207	177	36,696	16.89
Nicholas	2	—	—	6	159,132	54	19	73	159	11,596	13.72
Preston	5	2	—	10	314,330	135	81	216	171	36,895	8.52
Raleigh	8	1	—	12	373,183	163	50	213	121	25,745	14.50
Randolph	6	—	—	14	454,583	117	38	155	198	30,687	14.81
Taylor	10	—	—	13	402,027	130	34	164	134	21,960	18.31
Upshur	4	—	—	4	36,855	22	9	31	78	2,429	15.17
Total West Virginia	186	12	—	340	14,246,255	3,749	1,258	5,007	187	938,429	15.18
Wyoming:											
Campbell and Sheridan	3	—	2	4	409,916	59	50	109	249	27,167	15.09
Carbon	3	1	—	5	444,708	70	28	98	286	28,026	15.87
Total Wyoming	6	1	2	9	854,624	129	78	207	267	55,193	15.48
Total United States	1,370	141	256	2,042	109,986,865	23,261	10,308	33,569	212	7,112,293	15.46

1/ On returns from mines combining stripping and underground methods in same operation, the tonnage has been separated and the figures on employment prorated so that this table includes only data pertaining to strip mining.

TABLE 32. - SUMMARY OF OPERATIONS OF POWER STRIP PITS PROPER IN THE BITUMINOUS-COAL AND LIGNITE FIELDS OF THE UNITED STATES, BY STATES, IN 1945

State	Number of strip pits	Number of power shovels and dragline excavators			Mined by stripping (net tons)	Average value per ton 1/	Number of men employed	Average number of days mines were active	Average tons per man per day
		Steam	Electric	All others					
Power strip pits proper:									
Alabama	45	9	2	79	1,830,039	4.13	1,110	195	8.46
Arkansas	19	3	-	34	660,293	4.46	506	150	8.69
Colorado	4	-	-	5	50,568	3.52	50	133	7.63
Georgia	1	-	-	1	10,221	3.85	10	175	5.84
Illinois	42	1	79	49	16,907,529	2.28	3,503	261	18.52
Indiana	53	6	51	83	13,449,038	2.25	3,284	257	15.93
Iowa	22	2	1	41	517,990	3.10	298	208	8.37
Kansas	22	15	21	13	2,928,962	2.45	894	248	13.22
Kentucky	46	3	10	92	6,685,657	2.34	1,523	230	19.05
Maryland	6	-	1	11	204,975	3.19	147	151	9.22
Missouri	33	10	23	26	3,486,501	2.45	965	245	14.78
Montana (bituminous)	1	-	7	1	2,555,208	1.17	106	303	79.55
Montana (lignite)	1	-	-	1	1,133	2.65	2	135	4.20
New Mexico	1	-	-	1	1,480	3.55	11	60	2.24
North Dakota (lignite)	24	3	14	26	1,840,209	1.52	407	226	19.97
Ohio	172	21	26	309	13,483,789	2.59	3,920	214	16.08
Oklahoma	16	8	9	18	1,624,772	3.08	567	227	12.60
Pennsylvania	542	45	8	872	27,426,421	3.08	9,910	195	14.22
South Dakota (lignite)	1	-	-	2	4,320	2.55	3	275	5.24
Tennessee	7	-	-	12	201,171	3.28	134	151	9.97
Texas (lignite)	1	2	-	-	79,949	.85	26	158	19.52
Virginia	8	-	-	11	308,890	2.95	125	175	14.15
Washington	5	-	2	6	148,658	4.98	124	162	7.41
West Virginia	175	12	-	340	14,187,063	2.93	4,918	190	15.21
Wyoming	6	1	2	9	854,624	2.44	207	267	15.48
Total	1,253	141	256	2,042	109,449,460	2.64	32,750	215	15.57
Horse stripping operations	117	-	-	-	537,405	3.18	819	104	6.32
Grand total	1,370	141	256	2,042	109,986,865	2.65	33,569	212	15.46

1/ Value received or charged for coal, f.o.b. mine, including selling cost.

TABLE 33. - SUMMARY OF OPERATIONS OF POWER STRIP PITS PROPER IN THE BITUMINOUS-COAL AND LIGNITE FIELDS OF THE UNITED STATES, BY DISTRICTS, IN 1945

(Districts as defined in the Bituminous Coal Act of 1937 and modifications thereto)

Minimum Price Area and Producing District	Number of strip pits	Number of power shovels and dragline excavators			Mined by stripping (net tons)	Average value per ton 1/	Number of man employed	Average number of days mines were active	Average tons per man per day
		Steam	Electric	All others					
PRICE AREA 1									
Dist. 1. Eastern Pennsylvania 2/	297	25	3	498	13,436,855	3.28	5,901	185	12.34
Dist. 2. Western Pennsylvania	256	20	6	395	14,597,127	2.92	4,320	206	16.37
Dist. 3. Northern West Virginia	119	2	-	242	10,751,716	2.78	3,496	196	15.70
Dist. 4. Ohio	172	21	26	309	13,483,789	2.59	3,920	214	16.08
Dist. 5. Michigan	-	-	-	-	-	-	-	-	-
Dist. 6. Panhandle	13	5	-	22	949,818	2.78	275	199	17.36
Dist. 7. Southern Numbered 1	32	5	-	55	1,706,468	3.69	849	162	12.44
Dist. 8. Southern Numbered 2	32	2	1	57	1,676,594	3.21	733	183	12.51
Total Price Area 1	921	80	36	1,578	56,602,367	2.93	19,494	196	14.78
PRICE AREA 2									
Dist. 9. West Kentucky	33	1	9	65	5,807,711	2.20	1,130	246	20.88
Dist. 10. Illinois	42	1	79	49	16,907,529	2.28	3,503	261	18.52
Dist. 11. Indiana	53	6	51	83	13,449,038	2.25	3,284	257	15.93
Dist. 12. Iowa	22	2	1	41	517,990	3.10	298	208	8.37
Total Price Area 2	150	10	140	238	36,682,268	2.27	8,215	255	17.49
PRICE AREA 3									
Dist. 13. Southeastern	48	9	2	84	1,928,148	4.11	1,173	192	8.54
PRICE AREA 4									
Dist. 14. Arkansas-Oklahoma	21	4	-	37	717,659	4.41	540	156	8.54
PRICE AREA 5									
Dist. 15. Southwestern:									
Bituminous	69	32	53	54	7,982,869	2.57	2,392	242	13.80
Lignite (Texas)	1	2	-	-	79,949	.85	26	158	19.52
Total Price Area 5	70	34	53	54	8,062,818	2.55	2,418	241	13.84
PRICE AREA 6									
Dist. 16. Northern Colorado	1	-	-	1	8,653	3.61	5	247	7.01
Dist. 17. Southern Colorado 3/	3	-	-	4	41,915	3.50	45	120	7.78
Dist. 18. New Mexico 4/	1	-	-	1	1,480	3.55	11	60	2.24
Total Price Area 6	5	-	-	6	52,048	3.52	61	119	7.14
PRICE AREA 7									
Dist. 19. Wyoming 5/	6	1	2	9	854,624	2.44	207	267	15.48
Dist. 20. Utah	-	-	-	-	-	-	-	-	-
Total Price Area 7	6	1	2	9	854,624	2.44	207	267	15.48
PRICE AREA 8									
Dist. 21. North-South Dakota (lignite) ..	25	3	14	28	1,844,529	1.52	410	227	19.84
PRICE AREA 9									
Dist. 22. Montana (bituminous and lignite)	2	-	7	2	2,556,341	1.18	108	300	78.92
PRICE AREA 10									
Dist. 23. Washington 6/	5	-	2	6	148,658	4.98	124	162	7.41
Total	1,253	141	256	2,042	109,449,460	2.64	32,750	215	15.57
Horse stripping operations	117	-	-	-	537,405	3.18	819	104	6.32
Grand total 7/	1,370	141	256	2,042	109,986,865	2.65	33,569	212	15.46

1/ Value received or charged for coal, f.o.b. mine, including selling cost.
2/ Includes Maryland and Grant, Mineral, and Tucker Counties, West Virginia.
3/ Includes Colfax County, New Mexico.
4/ Includes Arizona and California, but excludes Colfax County, New Mexico. No production was reported for California.
5/ Includes Idaho. No production was reported for Idaho.
6/ Includes Alaska and Oregon.
7/ For purposes of historical comparison and statistical convenience, the figures include the output of lignite and of anthracite and semianthracite outside of Pennsylvania.

TABLE 34. - SUMMARY OF OPERATIONS OF UNDERGROUND BITUMINOUS-COAL AND LIGNITE MINES WHERE SHOT HOLES WERE POWER-DRILLED IN THE UNITED STATES, BY STATES, IN 1945

State	Number of mines using power drills		Number of power drills								Net tons produced in working places where shot holes were power-drilled			Total production from mines using power drills (net tons)		
			Electric				Compressed air									
	In coal and coal and rock	In rock only	In coal only	In coal and rock	In rock only	Total	In coal only	In coal and rock	In rock only	Total	Electric drills	Compressed air drills	Total	In coal and coal and rock	In rock only	Total
Alabama	55	4	717	150	19	886	9	—	154	163	11,632,665	95,000	11,727,665	13,140,230	663,187	13,803,417
Alaska	3	—	12	—	—	12	30	—	6	36	108,478	158,219	266,697	266,697	—	266,697
Arkansas	5	16	16	3	5	24	—	—	43	43	264,550	—	264,550	285,344	724,912	1,010,256
Colorado	63	5	288	101	4	393	1	—	57	58	4,866,092	20,000	4,886,092	6,111,756	649,478	6,761,234
Illinois	131	—	978	125	6	1,109	—	—	34	34	51,980,111	—	51,980,111	52,641,389	—	52,641,389
Indiana	30	1	161	108	6	275	—	—	2	2	10,912,582	—	10,912,582	10,960,918	79,895	11,040,813
Iowa	10	—	30	6	—	36	—	—	—	—	449,681	—	449,681	487,379	—	487,379
Kentucky	245	19	1,066	157	46	1,269	43	3	145	191	39,599,620	860,633	40,460,253	45,150,384	3,194,372	48,344,756
Maryland	3	3	24	—	3	27	—	—	7	7	252,681	—	252,681	506,520	80,985	587,505
Michigan	3	—	7	1	—	8	—	—	1	1	86,332	—	86,332	125,704	—	125,704
Missouri	5	2	6	1	—	7	—	—	2	2	152,572	—	152,572	152,572	59,293	211,865
Montana: Bituminous	9	—	43	2	1	46	—	—	3	3	1,802,921	—	1,802,921	1,802,921	—	1,802,921
Lignite	6	—	12	—	—	12	—	—	—	—	33,404	—	33,404	33,404	—	33,404
New Mexico	4	—	32	—	—	32	—	—	6	6	1,020,092	—	1,020,092	1,095,434	—	1,095,434
North-South Dakota (lignite)	10	—	16	—	—	16	1	—	—	1	568,850	5,940	574,790	574,790	—	574,790
Ohio	42	5	296	93	27	416	—	—	4	4	13,376,307	—	13,376,307	14,217,939	388,895	14,606,834
Oklahoma	8	4	48	21	9	78	—	—	—	—	736,754	—	736,754	763,805	125,292	889,097
Oregon	1	—	—	—	—	—	3	2	—	5	—	16,500	16,500	16,500	—	16,500
Pennsylvania	203	51	1,344	445	130	1,919	52	3	544	599	53,360,238	1,706,460	55,066,698	70,642,790	9,989,454	80,632,244
Tennessee	31	5	161	6	7	174	7	1	36	44	3,315,803	136,104	3,451,907	3,775,942	468,013	4,243,955
Utah	27	—	261	4	2	267	—	—	28	28	6,457,004	—	6,457,004	6,560,732	—	6,560,732
Virginia	41	6	219	—	6	225	—	—	68	68	7,606,792	—	7,606,792	10,897,386	1,049,487	11,946,873
Washington	16	—	61	14	—	75	133	6	34	173	280,803	704,617	985,420	1,072,563	—	1,072,563
West Virginia	350	57	2,076	337	90	2,503	2	7	367	376	81,112,970	165,150	81,278,120	101,131,233	15,406,472	116,537,705
Wyoming	25	—	451	5	2	458	4	—	7	11	8,889,362	50,702	8,940,064	8,940,064	—	8,940,064
Total	1,326	178	8,325	1,579	363	10,267	285	22	1,548	1,855	298,866,664	3,919,325	302,785,989	351,354,396	32,879,735	384,234,131

TABLE 35. - SUMMARY OF OPERATIONS OF UNDERGROUND BITUMINOUS-COAL AND LIGNITE MINES WHERE SHOT HOLES WERE POWER-DRILLED IN THE UNITED STATES, BY DISTRICTS, IN 1945

(Districts as defined in the Bituminous Coal Act of 1937 and modifications thereto.)

Minimum Price Area and Producing District	Number of mines using power drills		Number of power drills								Net tons produced in working places where shot holes were power-drilled			Total production from mines using power drills (net tons)		
			Electric				Compressed air									
	In coal and coal and rock	In rock only	In coal only	In coal and rock	In rock only	Total	In coal only	In coal and rock	In rock only	Total	Electric drills	Compressed air drills	Total	In coal and coal and rock	In rock only	Total
PRICE AREA 1																
Dist. 1. Eastern Pennsylvania 1/	113	41	909	171	110	1,190	10	—	424	434	16,694,228	81,500	16,775,728	24,864,076	5,540,282	30,404,358
Dist. 2. Western Pennsylvania	98	14	474	278	29	781	42	3	128	173	37,331,367	1,624,960	38,956,327	46,780,234	4,575,607	51,355,841
Dist. 3. Northern West Virginia	82	3	442	119	15	576	2	—	48	50	26,665,901	55,968	26,721,869	28,327,813	1,056,874	29,384,687
Dist. 4. Ohio	42	5	296	93	27	416	—	—	4	4	13,376,307	—	13,376,307	14,217,939	388,895	14,606,834
Dist. 5. Michigan	3	—	7	1	—	8	—	—	1	1	86,332	—	86,332	125,704	—	125,704
Dist. 6. Panhandle	8	—	1	87	—	88	—	—	4	4	2,234,826	—	2,234,826	3,251,175	—	3,251,175
Dist. 7. Southern Numbered 1	84	37	639	51	16	706	—	4	199	203	16,799,134	25,000	16,824,134	29,372,753	10,961,432	40,334,185
Dist. 8. Southern Numbered 2	429	43	2,206	216	109	2,531	50	6	356	412	73,688,553	1,079,515	74,768,068	87,535,035	7,941,340	95,476,375
Total Price Area 1	859	143	4,974	1,016	306	6,296	104	13	1,164	1,281	186,876,648	2,866,943	189,743,591	234,474,729	30,464,430	264,939,159
PRICE AREA 2																
Dist. 9. West Kentucky	56	1	194	23	3	220	—	—	3	3	11,527,369	—	11,527,369	11,527,369	29,044	11,556,413
Dist. 10. Illinois	131	—	978	125	6	1,109	—	—	34	34	51,980,111	—	51,980,111	52,641,389	—	52,641,389
Dist. 11. Indiana	30	1	161	108	6	275	—	—	2	2	10,912,582	—	10,912,582	10,960,918	79,895	11,040,813
Dist. 12. Iowa	10	—	30	6	—	36	—	—	—	—	449,681	—	449,681	487,379	—	487,379
Total Price Area 2	227	2	1,363	262	15	1,640	—	—	39	39	74,869,743	—	74,869,743	75,617,055	108,939	75,725,994
PRICE AREA 3																
Dist. 13. Southeastern	58	6	742	150	19	911	9	1	159	169	11,939,391	96,404	12,035,795	13,586,030	747,391	14,333,421
PRICE AREA 4																
Dist. 14. Arkansas-Oklahoma	7	19	36	3	10	49	—	—	43	43	315,388	—	315,388	336,182	792,602	1,128,784
PRICE AREA 5																
Dist. 15. Southwestern: (bit. and lig.)	11	3	34	22	4	60	—	—	2	2	838,488	—	838,488	865,539	116,895	982,434
PRICE AREA 6																
Dist. 16. Northern Colorado	23	—	138	23	—	161	—	—	—	—	2,039,601	—	2,039,601	2,298,599	—	2,298,599
Dist. 17. Southern Colorado 2/	44	5	182	78	4	264	1	—	63	64	3,846,583	20,000	3,866,583	4,908,591	649,478	5,558,069
Dist. 18. New Mexico 3/	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Price Area 6	67	5	320	101	4	425	1	—	63	64	5,886,184	20,000	5,906,184	7,207,190	649,478	7,856,668
PRICE AREA 7																
Dist. 19. Wyoming 4/	25	—	451	5	2	458	4	—	7	11	8,889,362	50,702	8,940,064	8,940,064	—	8,940,064
Dist. 20. Utah	27	—	261	4	2	267	—	—	28	28	6,457,004	—	6,457,004	6,560,732	—	6,560,732
Total Price Area 7	52	—	712	9	4	725	4	—	35	39	15,346,366	50,702	15,397,068	15,500,796	—	15,500,796
PRICE AREA 8																
Dist. 21. North-South Dakota (lignite)	10	—	16	—	—	16	1	—	—	1	568,850	5,940	574,790	574,790	—	574,790
PRICE AREA 9																
Dist. 22. Montana (bituminous and lignite)	15	—	55	2	1	58	—	—	3	3	1,836,325	—	1,836,325	1,836,325	—	1,836,325
PRICE AREA 10																
Dist. 23. Washington 5/	17	—	61	14	—	75	136	8	34	178	280,803	721,117	1,001,920	1,089,063	—	1,089,063
Alaska	3	—	12	—	—	12	30	—	6	36	108,478	158,219	266,697	266,697	—	266,697
Total Price Area 10	20	—	73	14	—	87	166	8	40	214	389,281	879,336	1,268,617	1,355,760	—	1,355,760
Grand total 6/	1,326	178	8,325	1,579	363	10,267	285	22	1,548	1,855	298,866,664	3,919,325	302,785,989	351,354,396	32,879,735	384,234,131

1/ Includes Maryland, and Grant, Mineral, and Tucker Counties, West Virginia.
2/ Includes Colfax County, New Mexico.
3/ Includes Arizona and California, but excludes Colfax County, New Mexico. No production was reported for California.
4/ Includes Idaho. No production was reported for Idaho.
5/ Includes Oregon.
6/ For purposes of historical comparison and statistical convenience, the figures include the output of lignite and of anthracite and semianthracite outside of Pennsylvania.

MECHANICAL LOADING

Bituminous coal and lignite mechanically loaded in underground mines increased from about 2 million tons, or 0.3 percent of the total underground output in 1923, to more than 262 million tons, or 56 percent in 1945. (see table 18).

Mechanical loading equipment used in underground bituminous-coal and lignite mines is divided into two types: devices that practically eliminate hand shoveling, known as mobile loaders, scrapers, and self-loading conveyors or duckbills, and those that greatly reduce the labor in hand shoveling known as hand-loaded face conveyors and pit-car loaders. Devices in the first category are designated as "machines" and those in the second category as "conveyors."

Sales of mechanical loading equipment in 1945. - The estimated capacity of mechanical loading equipment sold for underground use in all coal mines was 25 percent more in 1945 than in 1944. Table 36 shows the sales reported, by type of equipment, and the number of manufacturers reporting for 1938-45.

Sales of conveyors to bituminous-coal and lignite mines in 1945 totaled 738 units. The figures for 1942-45 exclude duckbills, which were included in all previous years. Therefore, these sales are not comparable with those for 1941 or earlier years.

The number of mobile loaders, scrapers, and conveyors shipped into the various States and groups of States and the number of units in actual use in 1945 are shown in table 38.

Statistics on mechanical loading in bituminous-coal and lignite mines in 1945. - During 1945 the approximate percentage of the tonnage loaded by each type of equipment was as follows: Mobile loaders, 76; hand-loaded conveyors, 15; duckbills, 8; pit-car loaders, 1; and scrapers combined, 1.

Mobile loaders handle more coal than all other types of mechanical loading devices combined. Where coal is loaded by mobile loaders it is more commonly loaded directly into mine cars, but some tonnage is loaded into shuttle cars or onto conveyors. During 1945, 73 percent of the bituminous coal and lignite handled by mobile loaders was loaded directly into mine cars, 23 percent into shuttle cars, and 4 percent onto conveyors.

During 1945 in underground bituminous coal and lignite mines 2,950 mobile loaders handled 198,668,462 net tons, an average of 67,345 tons per mobile loader per year; scrapers averaged 14,389; pit-car loaders, 6,942; duckbills, 15,550; and hand-loaded face conveyors, 11,847, per year per unit for the same period. (see tables 37 and 39).

Mechanical loading by States. - West Virginia has been the leading producer of mechanically loaded coal since 1939. During 1945 West Virginia produced 78,358,267 tons of mechanically loaded coal, followed by Illinois with 48,997,059, Pennsylvania with 44,554,921, Kentucky with 24,773,383, and Ohio with 15,124,377 tons. These five States produced 80 percent of the total output of underground mechanically loaded bituminous coal in the United States in 1945.

Detailed data by States on number of mines and machines and production of mechanically loaded coal compared with total production at mines using mechanical loading devices are given in table 40, and similar data by Coal Act Districts are shown in table 41. Comparative changes in underground mechanical loading in 1944-45, by States and Coal Act Districts, are shown in tables 42 and 43.

Tables 44 and 45 give bituminous coal and lignite tonnage mined by stripping compared with underground hand-loaded and machine-loaded tonnage, by States and Coal Act Districts, for 1945.

TABLE 36. - UNITS OF MECHANICAL LOADING EQUIPMENT SOLD TO BITUMINOUS-COAL AND LIGNITE MINES FOR UNDERGROUND USE IN THE UNITED STATES, AS REPORTED BY MANUFACTURERS, 1938-45

	1938	1939	1940	1941	1942	1943	1944	1945	Change 1945 from 1944 (percent)
ype of equipment:									
Mobile loaders	241	292	233	367	352	234	282	349	+ 23.8
Scrapers 1/	6	18	36	8	15	13	20	6	- 70.0
Conveyors 2/	749	1,095	1,573	1,800	1,167	798	580	738	+ 27.2
Pit-car loaders	139	2	3	10	2	1	---	(3)	---
Total, all types	1,135	1,407	1,845	2,185	1,536	1,046	882	1,093	+ 23.9
umber of manufacturers reporting	29	31	32	32	28	24	22	25	---

/ Reported as scrapers or scraper haulers and hoists.

2/ Includes hand-loaded conveyors and those equipped with duckbills or other self-loading heads. Sales of both loading heads and shaker conveyors were counted for the years 1938-41, inclusive, but the figures for 1942-45, inclusive, do not include loading heads separately.

3/ Canvass of sales of pit-car loaders discontinued in 1945.

TABLE 37. - UNITS OF MECHANICAL LOADING EQUIPMENT IN USE IN UNDERGROUND BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, 1940-45

	1940	1941	1942	1943	1944	1945	Change 1945 from 1944 (percent)
ype of equipment:							
Mobile loaders	1,720	1,985	2,301	2,525	2,737	2,950	+ 7.8
Scrapers	116	109	93	83	87	87	---
Pit-car loaders	697	607	481	321	241	142	- 41.1
Conveyors equipped with duckbills or other self-loading heads	656	788	1,062	1,226	1,331	1,383	+ 3.9
Hand-loaded conveyors	2,263	2,807	3,041	3,191	3,236	3,385	+ 4.6
Total, all types	5,452	6,296	6,978	7,346	7,632	7,947	+ 4.1

TABLE 38.- COMPARISON OF MECHANICAL LOADING EQUIPMENT AND "MOTHER" CONVEYORS IN ACTUAL USE IN BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES WITH SALES REPORTED, BY STATES AND REGIONS, IN 1945

State and region	Mechanical loading equipment						"Mother" conveyors 2/	
	Mobile loaders		Scrapers		Conveyors 1/			
	In use	Sales	In use	Sales	In use	Sales	In use	Sales
Northern Appalachian States:								
Maryland	---	---	---	---	31	---	---	2
Michigan	---	---	---	---	5	2	1	2
Ohio	174	18	---	---	155	20	23	4
Pennsylvania	651	80	13	---	822	97	92	15
Southern Appalachian States:								
Alabama	103	14	49	2	396	37	63	3
Kentucky	237	54	1	---	594	126	107	21
Tennessee	11	1	---	---	168	40	32	8
Virginia	78	12	---	---	127	52	8	5
West Virginia	764	130	2	---	1,395	265	270	56
Middle Western States:								
Illinois	570	23	---	---	26	18	27	17
Indiana	160	7	---	---	---	6	2	1
Trans-Mississippi States 3/	202	10	22	4	1,049	75	84	3
Total	2,950	349	87	6	4,768	738	709	137

1/ Includes hand-loaded conveyors and conveyors equipped with duckbills or other self-loading heads.
2/ Includes all haulage conveyors with capacities over 500 feet except main slope conveyors.
3/ Includes Arkansas, Colorado, Iowa, Montana, New Mexico, North Dakota, Oklahoma, Oregon, Utah, Washington, and Wyoming.

TABLE 39.- BITUMINOUS COAL AND LIGNITE MECHANICALLY LOADED UNDERGROUND IN THE UNITED STATES, BY TYPES OF LOADING EQUIPMENT, 1944-45

Type of equipment	1944		1945	
	Net tons	Percent of total	Net tons	Percent of total
Mobile loaders	202,875,221	74.0	198,668,462	75.7
Scrapers	1,341,450	.5	1,251,868	.5
Pit-car loaders	1,835,178	.7	985,817	.4
Conveyors equipped with duckbills or other self-loading heads	23,163,541	8.4	21,505,950	8.2
Hand-loaded conveyors	44,973,742	16.4	40,100,632	15.2
Grand total loaded mechanically	274,189,132	100.0	262,512,729	100.0

TABLE 40. - MECHANICAL LOADING UNDERGROUND IN BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES, IN 1945

State	Number of mines				Number of loading devices					Production mechanically loaded (net tons)			Total underground production at mines using mechanical loading devices (net tons)			
	Using loading machines only 1/	Using conveyors only 2/	Using both loading machines and conveyors	Total	Mobile loading machines	Scrapers	Conveyors equipped with duckbills or other self-loading heads	Pit-car loaders	Hand-loaded conveyors 3/	Loaded by machines 1/	Handled by conveyors 2/	Total	Mines using loading machines only 1/	Mines using conveyors only 2/	Mines using both loading machines and conveyors	Total
Alabama	18	19	11	48	103	49	46	2	350	5,270,582	4,053,933	9,324,515	4,423,206	3,863,942	4,472,034	12,759,182
Arkansas	—	18	—	18	—	—	—	—	50	—	773,472	773,472	—	773,472	—	773,472
Colorado	33	19	9	61	34	—	184	1	113	3,488,332	809,687	4,298,019	4,144,044	828,492	846,876	5,819,412
Illinois	68	2	8	78	570	—	22	79	4	48,410,628	586,431	48,997,059	45,353,513	250,405	4,563,388	50,167,306
Indiana	20	—	2	22	160	—	—	12	—	10,541,050	36,177	10,577,227	10,331,836	—	245,391	10,577,227
Iowa	2	—	—	2	3	—	14	—	—	248,141	—	248,141	266,439	—	—	266,439
Kentucky	94	38	16	148	237	1	208	—	386	20,429,297	4,344,086	24,773,383	24,921,757	4,306,793	6,199,936	35,428,486
Maryland	—	4	1	5	—	—	3	—	28	33,567	176,024	209,591	—	406,316	148,824	555,140
Michigan	—	1	—	1	—	—	—	—	5	—	53,656	53,656	—	93,028	—	93,028
Montana (bituminous and lignite)	8	1	1	10	49	—	6	6	2	1,774,152	20,000	1,794,152	1,656,440	25,178	127,712	1,809,330
New Mexico	3	—	1	4	12	8	—	—	1	761,484	3,861	765,345	721,798	—	373,636	1,095,434
North Dakota (lig.).	3	—	—	3	7	—	—	—	—	543,351	—	543,351	585,860	—	—	585,860
Ohio	26	1	3	30	174	—	131	—	24	12,555,496	381,583	12,937,079	12,660,244	44,574	983,699	13,688,517
Oklahoma	—	10	1	11	4	—	—	—	131	125,000	723,908	848,908	—	719,697	162,539	882,236
Oregon	—	1	—	1	—	—	—	—	2	—	16,500	16,500	—	16,500	—	16,500
Pennsylvania	99	56	34	189	651	13	98	22	724	37,181,093	7,373,828	44,554,921	49,028,202	9,246,207	11,063,906	69,338,315
Tennessee	12	12	7	31	11	—	32	—	136	936,816	1,693,723	2,630,539	1,594,970	1,710,498	964,439	4,269,907
Utah	13	3	5	21	67	—	98	—	25	5,742,076	217,596	5,959,672	5,423,104	159,280	664,601	6,246,985
Virginia	19	9	9	37	78	—	16	—	111	4,104,531	1,198,432	5,302,963	5,328,416	1,135,444	3,610,413	10,074,273
Washington	3	5	4	12	1	4	8	—	92	103,393	599,237	702,630	93,252	220,559	510,983	824,794
West Virginia	155	125	81	361	764	2	245	19	1,150	60,838,348	17,519,919	78,358,267	61,290,035	21,578,344	24,757,028	107,625,407
Wyoming	16	4	3	23	25	10	272	1	51	8,338,943	504,396	8,843,339	7,830,677	200,329	831,635	8,862,641
Total: 1945 ...	592	328	196	1,116	2,950	87	1,363	142	3,385	221,426,280	41,086,449	262,512,729	235,653,793	45,579,058	60,527,040	341,759,891
1944 ...	538	332	187	1,057	2,737	87	1,331	241	3,236	227,380,212	46,808,920	274,189,132	247,419,187	51,204,585	67,272,185	365,895,957
Percent change, 1945 from 1944	+ 10.0	- 1.2	+ 4.8	+ 5.6	+ 7.8	—	+ 3.9	- 41.1	+ 4.6	- 2.6	- 12.2	- 4.3	- 4.8	- 11.0	- 10.0	- 6.6

1/ Includes mobile loaders, scrapers, and conveyors equipped with duckbills or other self-loading heads. Some mines in this class also use conveyors or shuttle cars in conjunction with mobile loaders to perform initial phase of transportation.

2/ Includes hand-loaded conveyors and pit-car loaders.

3/ Number of units.

TABLE 41. - MECHANICAL LOADING UNDERGROUND IN BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY DISTRICTS, IN 1945

(Districts as defined in the Bituminous Coal Act of 1937 and modifications thereto)

Minimum Price Area and Producing District	Number of mines				Number of loading devices					Production mechanically loaded (net tons)			Total underground production at mines using mechanical loading devices (net tons)			
	Using loading machines only 1/	Using conveyors only 2/	Using both loading machines and conveyors	Total	Mobile loading machines	Scraper	Conveyors equipped with duck-bills or other self-loading heads	Pit-car loaders	Hand-loaded conveyors 3/	Loaded by machines 1/	Handled by conveyors 2/	Total	Mines using loading machines only 1/	Mines using conveyors only 2/	Mines using both loading machines and conveyors	Total
PRICE AREA 1																
Dist. 1. Eastern Pennsylvania 4/ ..	28	60	31	119	147	11	63	—	706	8,639,508	6,809,186	15,448,694	8,317,396	9,322,845	9,474,073	27,114,314
Dist. 2. Western Pennsylvania	71	4	4	79	504	2	38	22	68	28,575,152	892,406	29,467,558	40,710,806	772,014	1,738,657	43,221,477
Dist. 3. Northern West Virginia ...	57	12	5	74	276	—	8	—	111	22,921,245	1,458,004	24,379,249	24,127,880	1,240,680	2,129,129	27,497,689
Dist. 4. Ohio	26	1	3	30	174	—	131	—	24	12,555,496	381,583	12,937,079	12,660,244	44,574	983,699	13,688,517
Dist. 5. Michigan	—	1	—	1	—	—	—	—	5	—	53,656	53,656	—	93,028	—	93,028
Dist. 6. Panhandle	2	—	5	7	34	—	22	—	27	1,568,253	654,951	2,223,204	1,195,833	—	2,043,720	3,239,553
Dist. 7. Southern Numbered 1	30	59	25	114	133	2	95	19	497	11,617,580	7,870,170	19,487,750	15,450,314	11,555,069	8,193,087	35,198,470
Dist. 8. Southern Numbered 2	154	107	78	339	559	1	312	—	1,091	40,644,714	14,420,806	55,065,520	42,515,947	15,066,249	23,165,880	80,748,076
Total Price Area 1	368	244	151	763	1,827	16	669	41	2,529	126,521,948	32,540,762	159,062,710	144,978,420	38,094,459	47,728,245	230,801,124
PRICE AREA 2																
Dist. 9. West Kentucky	36	—	—	36	88	—	63	—	—	9,555,542	—	9,555,542	9,631,660	—	—	9,631,660
Dist. 10. Illinois	68	2	8	78	570	—	22	79	4	48,410,628	586,431	48,997,059	45,353,513	250,405	4,563,388	50,167,306
Dist. 11. Indiana	20	—	2	22	160	—	—	12	—	10,541,050	36,177	10,577,227	10,331,836	—	245,391	10,577,227
Dist. 12. Iowa	2	—	—	2	3	—	14	—	—	248,141	—	248,141	266,439	—	—	266,439
Total Price Area 2	126	2	10	138	821	—	99	91	4	68,755,361	622,608	69,377,969	65,583,448	250,405	4,808,779	70,642,632
PRICE AREA 3																
Dist. 13. Southeastern	19	21	11	51	103	49	47	2	385	5,272,240	4,254,422	9,526,662	4,636,750	4,290,687	4,472,034	13,399,471
PRICE AREA 4																
Dist. 14. Arkansas-Oklahoma	—	20	—	20	—	—	—	—	83	—	834,250	834,250	—	852,816	—	852,816
PRICE AREA 5																
Dist. 15. Southwestern (bituminous)	—	8	1	9	4	—	—	—	98	125,000	663,130	788,130	—	640,353	162,539	802,892
PRICE AREA 6																
Dist. 16. Northern Colorado	15	4	5	24	16	—	73	—	42	1,445,530	259,569	1,705,099	1,695,696	92,507	434,322	2,222,525
Dist. 17. Southern Colorado 5/	21	15	5	41	30	8	111	1	72	2,804,286	553,979	3,358,265	3,170,146	735,985	786,190	4,692,321
Dist. 18. New Mexico 6/	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Price Area 6	36	19	10	65	46	8	184	1	114	4,249,816	813,548	5,063,364	4,865,842	828,492	1,220,512	6,914,846
PRICE AREA 7																
Dist. 19. Wyoming 7/	16	4	3	23	25	10	272	1	51	8,338,943	504,396	8,843,339	7,830,677	200,329	831,635	8,862,641
Dist. 20. Utah	13	3	5	21	67	—	98	—	25	5,742,076	217,596	5,959,672	5,423,104	159,280	664,601	6,246,985
Total Price Area 7	29	7	8	44	92	10	370	1	76	14,081,019	721,992	14,803,011	13,253,781	359,609	1,496,236	15,109,626
PRICE AREA 8																
Dist. 21. North-South Dakota (lig.)	3	—	—	3	7	—	—	—	—	543,351	—	543,351	585,860	—	—	585,860
PRICE AREA 9																
Dist. 22. Montana (bit. and lig.) ..	8	1	1	10	49	—	6	6	2	1,774,152	20,000	1,794,152	1,656,440	25,178	127,712	1,809,330
PRICE AREA 10																
Dist. 23. Washington 8/	3	6	4	13	1	4	8	—	94	103,393	615,737	719,130	93,252	237,059	510,983	841,294
Grand total	592	328	196	1,116	2,950	87	1,383	142	3,385	221,426,280	41,086,449	262,512,729	235,653,793	45,579,058	60,527,040	341,759,891

1/ Includes mobile loaders, scrapers, and conveyors equipped with duckbills or other self-loading heads. Some mines in this class also use conveyors or shuttle cars in conjunction with mobile loaders to perform initial phase of transportation.
2/ Includes hand-loaded conveyors and pit-car loaders.
3/ Number of units.
4/ Includes Maryland, and Grant, Mineral, and Tucker counties, West Virginia.
5/ Includes Colfax County, New Mexico.
6/ Includes Arizona and California, but excludes Colfax County, New Mexico. No production was reported for California.
7/ Includes Idaho. No production was reported for Idaho.
8/ Includes Alaska and Oregon.

TABLE 42. - COMPARATIVE CHANGES IN UNDERGROUND MECHANICAL LOADING OF BITUMINOUS COAL AND LIGNITE BY PRINCIPAL TYPES OF LOADING DEVICES IN THE UNITED STATES, BY STATES, 1944-45

State	Net tons						Handled by each class (percent)				Underground output mechanically loaded (percent)	
	1944			1945			1944		1945			
	Loaded by machines 1/	Handled by conveyors 2/	Total	Loaded by machines 1/	Handled by conveyors 2/	Total	Loaded by machines 1/	Handled by conveyors 2/	Loaded by machines 1/	Handled by conveyors 2/	1944	1945
Alabama	5,013,477	4,991,218	10,004,695	5,270,582	4,053,933	9,324,515	50.1	49.9	56.5	43.5	57.0	57.0
Arkansas	—	898,388	898,388	—	773,472	773,472	—	100.0	—	100.0	67.2	65.4
Colorado	3,363,697	747,482	4,111,179	3,488,332	809,687	4,298,019	81.8	18.2	81.2	18.8	50.4	56.8
Illinois	50,116,239	748,996	50,865,235	48,410,628	586,431	48,997,059	98.5	1.5	98.3	1.2	86.5	87.3
Indiana	12,349,719	151,604	12,501,323	10,541,050	36,177	10,577,227	98.8	1.2	99.7	.3	90.4	90.3
Iowa	3/ 274,593	(3)	274,593	248,141	—	248,141	3/100.0	(3)	100.0	—	16.9	16.3
Kentucky	19,759,017	3,669,612	23,428,629	20,429,297	4,344,086	24,773,383	84.3	15.7	82.5	17.5	35.5	39.4
Maryland	(4)	4/ 269,008	269,008	33,567	176,024	209,591	(4)	4/ 100.0	16.0	84.0	15.5	13.6
Michigan	—	61,922	61,922	—	53,656	53,656	—	100.0	—	100.0	44.2	42.7
Montana (bituminous and lignite)	2.147,114	30,000	2,177,114	1,774,152	20,000	1,794,152	98.6	1.4	98.9	1.1	93.3	93.9
New Mexico	778,795	3,867	782,662	761,484	3,861	765,345	99.5	.5	99.5	.5	44.9	51.6
North Dakota (lig.)	561,763	—	561,763	543,351	—	543,351	100.0	—	100.0	—	79.2	82.0
Ohio	14,493,503	630,874	15,124,377	12,555,496	381,583	12,937,079	95.8	4.2	97.1	2.9	68.1	67.2
Oklahoma	101,747	853,215	954,962	125,000	723,908	848,908	10.7	89.3	14.7	85.3	61.3	66.3
Oregon	—	—	—	—	16,500	16,500	—	—	—	100.0	—	100.0
Pennsylvania	38,553,892	9,981,482	48,535,374	37,181,093	7,373,828	44,554,921	79.4	20.6	83.5	16.5	39.3	42.3
Tennessee	651,107	1,845,951	2,497,058	936,816	1,693,723	2,630,539	26.1	73.9	35.6	64.4	34.9	43.4
Utah	6,178,827	265,732	6,444,559	5,742,076	217,596	5,959,672	95.9	4.1	96.3	3.7	90.5	89.2
Virginia	3,726,643	1,351,810	5,078,453	4,104,531	1,198,432	5,302,963	73.4	26.6	77.4	22.6	26.2	31.3
Washington	134,926	699,349	834,275	103,393	599,237	702,630	16.2	83.8	14.7	85.3	57.0	58.3
West Virginia	61,007,359	18,965,117	79,972,476	60,833,348	17,519,919	78,358,267	76.3	23.7	77.6	22.4	52.7	56.9
Wyoming	8,167,794	643,293	8,811,087	8,338,943	504,396	8,843,339	92.7	7.3	94.3	5.7	98.2	98.3
Total	227,380,212	46,808,920	274,189,132	221,426,280	41,086,449	262,512,729	82.9	17.1	84.3	15.7	52.9	56.1

1/ Includes mobile loaders, scrapers, and conveyors equipped with duckbills or other self-loading heads.
2/ Includes hand-loaded conveyors and pit-car loaders.
3/ "Loaded by machines" includes small amount "Handled by conveyors."
4/ "Handled by conveyors" includes small amount "Loaded by machines."

TABLE 43. - COMPARATIVE CHANGES IN UNDERGROUND MECHANICAL LOADING OF BITUMINOUS COAL AND LIGNITE BY PRINCIPAL TYPES OF LOADING DEVICES IN THE UNITED STATES, BY DISTRICTS, 1944-45

(Districts as defined in the Bituminous Coal Act of 1937 and modifications thereto)

Minimum Price Area and Producing District	Net tons						Handled by each class (percent)				Underground output mechanically loaded (percent)	
	1944			1945			1944		1945			
	Loaded by machines 1/	Handled by conveyors 2/	Total	Loaded by machines 1/	Handled by conveyors 2/	Total	Loaded by machines 1/	Handled by conveyors 2/	Loaded by machines 1/	Handled by conveyors 2/	1944	1945
PRICE AREA 1												
Dist. 1. Eastern Pennsylvania 3/	4/ 8,814,768	4/ 9,329,151	18,143,919	8,639,508	6,809,186	15,448,694	4/ 48.6	4/ 51.4	55.9	44.1	35.8	35.8
Dist. 2. Western Pennsylvania	29,743,102	1,074,317	30,817,419	28,575,152	892,406	29,467,558	96.5	3.5	97.0	3.0	40.9	45.8
Dist. 3. Northern West Virginia	23,476,714	1,327,267	24,803,981	22,921,245	1,458,004	24,379,249	94.6	5.4	94.0	6.0	66.4	71.4
Dist. 4. Ohio	14,493,503	630,874	15,124,377	12,555,496	381,583	12,937,079	95.8	4.2	97.1	2.9	68.1	67.2
Dist. 5. Michigan	—	61,922	61,922	—	53,656	53,656	—	100.0	—	100.0	44.2	42.7
Dist. 6. Panhandle	1,726,499	714,351	2,440,850	1,568,253	654,951	2,223,204	70.7	29.3	70.5	29.5	57.8	60.8
Dist. 7. Southern Numbered 1	11,270,839	8,034,729	19,305,568	11,617,580	7,870,170	19,487,750	58.4	41.6	59.6	40.4	32.0	35.9
Dist. 8. Southern Numbered 2	39,030,164	15,136,603	54,166,767	40,644,714	14,420,806	55,065,520	72.1	27.9	73.8	26.2	43.1	47.9
Total Price Area 1	128,555,589	36,309,214	164,864,803	126,521,948	32,540,762	159,062,710	78.0	22.0	79.5	20.5	43.8	47.6
PRICE AREA 2												
Dist. 9. West Kentucky	9,635,932	268,686	9,904,618	9,555,542	—	9,555,542	97.3	2.7	100.0	—	68.7	65.3
Dist. 10. Illinois	50,116,239	748,996	50,865,235	48,410,628	586,431	48,997,059	98.5	1.5	98.8	1.2	86.5	87.3
Dist. 11. Indiana	12,349,719	151,604	12,501,323	10,541,050	36,177	10,577,227	98.8	1.2	99.7	.3	90.4	90.3
Dist. 12. Iowa	5/ 274,593	(5)	274,593	248,141	—	248,141	5/ 100.0	(5)	100.0	—	16.9	16.3
Total Price Area 2	72,376,483	1,169,286	73,545,769	68,755,361	622,608	69,377,969	98.4	1.6	99.1	.9	82.9	82.6
PRICE AREA 3												
Dist. 13. Southeastern	5,013,477	5,189,094	10,202,571	5,272,240	4,254,422	9,526,662	49.1	50.9	55.3	44.7	53.4	54.2
PRICE AREA 4												
Dist. 14. Arkansas-Oklahoma	1,747	1,050,470	1,052,217	—	834,250	834,250	.2	99.8	—	100.0	55.6	54.5
PRICE AREA 5												
Dist. 15. Southwestern: (bituminous)	100,000	701,133	801,133	125,000	663,130	788,130	12.5	87.5	15.9	84.1	39.7	46.5
PRICE AREA 6												
Dist. 16. Northern Colorado	1,677,041	38,667	1,715,708	1,445,530	259,569	1,705,099	97.7	2.3	84.8	15.2	69.6	72.9
Dist. 17. Southern Colorado 6/	2,465,451	712,682	3,178,133	2,804,286	553,979	3,358,265	77.6	22.4	83.5	16.5	46.6	53.1
Dist. 18. New Mexico 7/	—	—	—	—	—	—	—	—	—	—	—	—
Total Price Area 6	4,142,492	751,349	4,893,841	4,249,816	813,548	5,063,364	84.6	15.4	83.9	16.1	49.4	55.9
PRICE AREA 7												
Dist. 19. Wyoming 8/	8,167,794	643,293	8,811,087	8,338,943	504,396	8,843,339	92.7	7.3	94.3	5.7	98.2	98.3
Dist. 20. Utah	6,178,827	265,732	6,444,559	5,742,076	217,596	5,959,672	95.9	4.1	96.3	3.7	90.5	89.2
Total Price Area 7	14,346,621	909,025	15,255,646	14,081,019	721,992	14,803,011	94.0	6.0	95.1	4.9	94.8	94.5
PRICE AREA 8												
Dist. 21. North-South Dakota (lignite)	561,763	—	561,763	543,351	—	543,351	100.0	—	100.0	—	79.0	81.6
PRICE AREA 9												
Dist. 22. Montana (bituminous and lignite)	2,147,114	30,000	2,177,114	1,774,152	20,000	1,794,152	98.6	1.4	98.9	1.1	95.5	93.9
PRICE AREA 10												
Dist. 23. Washington 9/	134,926	699,349	834,275	103,393	615,737	719,130	16.2	83.8	14.4	85.6	56.9	58.9
Grand total 10/	227,380,212	46,808,920	274,189,132	221,426,280	41,086,449	262,512,729	82.9	17.1	84.3	15.7	52.9	56.1

1/ Includes mobile loaders, scrapers, and conveyors equipped with duckbills or other self-loading heads.
2/ Includes hand-loaded conveyors and pit-car loaders.
3/ Includes Maryland, and Grant, Mineral, and Tucker counties, West Virginia.
4/ "Handled by conveyors" includes small amount "Loaded by machines."
5/ "Loaded by machines" includes small amount "Handled by conveyors."
6/ Includes Colfax County, New Mexico.
7/ Includes Arizona and California, but excludes Colfax County, New Mexico. No production was reported for California.
8/ Includes Idaho. No production was reported for Idaho.
9/ Include Alaska and Oregon.
10/ For purposes of historical comparison and statistical convenience, the figures include the output of lignite and of anthracite and semianthracite outside of Pennsylvania.

TABLE 44.- BITUMINOUS COAL AND LIGNITE IN THE UNITED STATES MINED UNDERGROUND AND FROM STRIP PITS AND METHOD OF LOADING UNDERGROUND, IN NET TONS, BY STATES, IN 1945

State	Mined by stripping	Mined underground			Grand total production
		Hand-loaded	Mechanically loaded	Total	
Alabama	1,890,819	7,021,205	9,324,515	16,345,720	18,236,539
Alaska	---	297,644	---	297,644	297,644
Arizona	---	3,853	---	3,853	3,853
Arkansas	671,824	408,630	773,472	1,182,102	1,853,926
Colorado	52,811	3,270,182	4,298,019	7,568,201	7,621,012
Georgia	10,221	32,347	---	32,347	42,568
Illinois	16,909,100	7,105,033	48,997,059	56,102,092	73,011,192
Indiana	13,464,089	1,141,295	10,577,227	11,718,522	25,182,611
Iowa	521,058	1,276,401	248,141	1,524,542	2,045,600
Kansas	2,955,500	273,059	---	273,059	3,228,559
Kentucky	6,694,839	38,124,714	24,773,383	62,898,097	69,592,936
Maryland	217,526	1,335,586	209,591	1,545,177	1,762,703
Michigan	---	72,048	53,656	125,704	125,704
Missouri	3,492,302	490,422	---	490,422	3,982,724
Montana (bituminous)	2,555,208	82,240	1,787,743	1,869,983	4,425,191
Montana (lignite)	1,133	34,055	6,409	40,464	41,597
New Mexico	1,480	716,861	765,345	1,482,206	1,483,686
North Dakota (lignite)	1,859,674	119,294	543,351	662,645	2,522,319
Ohio	13,483,789	6,316,567	12,937,079	19,253,646	32,737,435
Oklahoma	1,628,418	431,650	848,908	1,280,558	2,908,976
Oregon	---	---	16,500	16,500	16,500
Pennsylvania	27,707,670	60,702,752	44,554,921	105,257,673	132,965,343
South Dakota (lignite)	21,412	3,033	---	3,033	24,445
Tennessee	206,463	3,433,706	2,630,539	6,064,245	6,270,708
Texas (lignite)	79,949	---	---	---	79,949
Utah	---	719,391	5,959,672	6,679,063	6,679,063
Virginia	308,890	11,623,140	5,302,963	16,926,103	17,234,993
Washington	151,811	502,803	702,630	1,205,433	1,357,244
West Virginia	14,246,255	59,430,210	78,358,267	137,788,477	152,034,732
Wyoming	854,624	149,612	8,843,339	8,992,951	9,847,575
Total	109,986,365	205,117,733	262,512,729	467,630,462	577,617,327

TABLE 45 - BITUMINOUS COAL AND LIGNITE IN THE UNITED STATES MINED UNDERGROUND AND FROM STRIP PITS AND METHOD OF LOADING UNDERGROUND, IN NET TONS, BY DISTRICTS, IN 1945

(Districts as defined in the Bituminous Coal Act of 1937 and modifications thereto)

Minimum Price Area and Producing District	Mined by stripping	Mined underground			Grand total production
		Hand-loaded	Mechanically loaded	Total	
PRICE AREA 1					
Dist. 1. Eastern Pennsylvania 1/	13,630,115	27,667,593	15,448,694	43,116,287	56,746,402
Dist. 2. Western Pennsylvania	14,697,667	34,902,759	29,467,558	64,370,317	79,067,984
Dist. 3. Northern West Virginia	10,810,908	9,776,062	24,379,249	34,155,311	44,966,219
Dist. 4. Ohio	13,483,789	6,316,567	12,937,079	19,253,646	32,737,435
Dist. 5. Michigan	---	72,048	53,656	125,704	125,704
Dist. 6. Panhandle	949,818	1,436,017	2,223,204	3,659,221	4,609,039
Dist. 7. Southern Numbered 1	1,706,468	34,812,313	19,487,750	54,300,063	56,006,531
Dist. 8. Southern Numbered 2	1,691,068	59,992,150	55,065,520	115,057,670	116,748,738
Total, Price Area 1	56,969,833	174,975,509	159,062,710	334,038,219	391,008,052
PRICE AREA 2					
Dist. 9. West Kentucky	5,807,711	5,081,119	9,555,542	14,636,661	20,444,372
Dist. 10. Illinois	16,909,100	7,105,033	48,997,059	56,102,092	73,011,192
Dist. 11. Indiana	13,464,089	1,141,295	10,577,227	11,718,522	25,182,611
Dist. 12. Iowa	521,058	1,276,401	248,141	1,524,542	2,045,600
Total, Price Area 2	36,701,958	14,603,848	69,377,969	83,981,817	120,683,775
PRICE AREA 3					
Dist. 13. Southeastern	1,988,928	8,035,647	9,526,662	17,562,309	19,551,237
PRICE AREA 4					
Dist. 14. Arkansas-Oklahoma	731,027	695,854	834,250	1,530,104	2,261,131
PRICE AREA 5					
Dist. 15. Southwestern:					
Bituminous	8,017,017	907,907	788,130	1,696,037	9,713,054
Lignite (Texas)	79,949	---	---	---	79,949
Total, Price Area 5	8,096,966	907,907	788,130	1,696,037	9,793,003
PRICE AREA 6					
Dist. 16. Northern Colorado	10,896	634,609	1,705,099	2,339,708	2,350,604
Dist. 17. Southern Colorado 2/	41,915	2,965,662	3,358,265	6,323,927	6,365,842
Dist. 18. New Mexico 3/	1,480	390,625	---	390,625	392,105
Total, Price Area 6	54,291	3,990,896	5,063,364	9,054,260	9,108,551
PRICE AREA 7					
Dist. 19. Wyoming 4/	854,624	149,612	8,843,339	8,992,951	9,847,575
Dist. 20. Utah	---	719,391	5,959,672	6,679,063	6,679,063
Total, Price Area 7	854,624	869,003	14,803,011	15,672,014	16,526,638
PRICE AREA 8					
Dist. 21. North-South Dakota (lignite)	1,881,086	122,327	543,351	665,678	2,546,764
PRICE AREA 9					
Dist. 22. Montana (bituminous and lignite)	2,556,341	116,295	1,794,152	1,910,447	4,466,788
PRICE AREA 10					
Dist. 23. Washington 5/	151,811	502,803	719,130	1,221,933	1,373,744
Alaska	---	297,644	---	297,644	297,644
Total, Price Area 10	151,811	800,447	719,130	1,519,577	1,671,388
GRAND TOTAL 6/	109,986,865	205,117,733	262,512,729	467,630,462	577,617,327

1/ Includes Maryland, and Grant, Mineral, and Tucker Counties, West Virginia.
2/ Includes Colfax County, New Mexico.
3/ Includes Arizona and California, but excludes Colfax County, New Mexico. No production was reported for California.
4/ Includes Idaho. No production was reported for Idaho.
5/ Includes Oregon.
6/ For purposes of historical comparison and statistical convenience, the figures include the output of lignite and of anthracite and semianthracite outside of Pennsylvania.

MECHANICAL CLEANING

The percent of the total production of bituminous coal that was mechanically cleaned increased from 4.5 in 1927, the first year complete data were collected, to 25.6 in 1944 and remained at 25.6 during 1945. (see table 16 - continued.) Historical data on mechanical cleaning are shown on tables 19 and 20.

In the following tables coal cleaned at consumer-operated plants was tabulated in State or district where the plant was located. All coal cleaned at plants other than consumer-operated plants was included in State or district from which the coal was mined.

Tables 46, 47, 50, 51, 52, and 53 include mechanical cleaning data on all coal mined in the United States except Pennsylvania anthracite. Tables 48 and 49 are upon the same basis but do not include consumer-operated plants. There are no mechanical cleaning plants at lignite mines.

Consumer-operated plants include plants owned by steel companies which receive coal from various mines (but usually from affiliated companies), clean it, and then consume it directly at the plant.

Table 46 compares bituminous coal cleaned in 1942-45, inclusive, by method of cleaning. Both wet and pneumatic methods decreased in 1945 from 1944.

Mechanical cleaning by types of equipment. - The tonnage of bituminous coal cleaned by wet-washing methods was 130,469,739 net tons in 1945 - a decrease of 5.9 percent from 1944. The quantity cleaned by pneumatic methods was 17,416,197 net tons - a decrease of 13.2 percent.

Table 47 compares the number of cleaning plants and the net tons of cleaned coal, by types of equipment, for 1944 and 1945. During 1945, 412 wet-washing and 83 pneumatic cleaning plants were in operation. Fifty-six tipples used both wet and dry methods at the same plant; deducting these duplications gives a net total of 439 plants that cleaned coal in 1945 compared with the same number in 1944.

Wet methods of cleaning coal include piston- or common-type jigs, Baum-type jigs, concentrating tables, launders and upward-current classifiers, and any combinations of these four methods. Baum-type jigs cleaned approximately 42 percent of the total coal cleaned by wet methods during 1945.

Pneumatic methods of coal cleaning include air tables, air flow, air sand, and any combinations of these three methods. During 1945, air tables cleaned approximately 59 percent of the total coal cleaned by pneumatic methods.

Mines served by cleaning plants, exclusive of those that ship to washeries operated by steel companies, produced a total of 214,258,070 tons, or 37.1 percent, of the total bituminous output in 1945. In this same group of mines, 138,834,782 tons were mechanically cleaned; therefore, 64.8 percent of the coal produced at mines with cleaning plants in 1945 was cleaned at the mine. The balance of the output from these mines (35.2 percent) presumably represents the larger sizes commonly picked by hand.

Table 50 shows total production of coal at mines with cleaning plants by methods of preparation in 1944 and 1945.

Coal cleaning by States. - The following States led in volume of coal mechanically cleaned in the United States in 1945: Pennsylvania, 22.2 percent of total; West Virginia, 21.4; Illinois, 20.8; Alabama, 9.3; and Indiana, 7.5 percent. These five States accounted for 81.3 percent of the total mechanically cleaned coal in 1945. Table 50 shows the number of plants in operation, tons of clean coal, and percentage of State output mechanically cleaned in 1944 and 1945. Table 51 shows similar data by Coal Act Districts.

Relation between raw coal, clean coal, and refuse. - For every 100 tons of raw coal cleaned during 1945 at the mines, 85.1 tons of clean merchantable coal, on an average, were obtained, and 14.9 tons of refuse were discarded. Tables 52 and 53 show total production of mines with cleaning plants and results of cleaning operations, by States and Coal Act Districts, respectively.

Methods of mining at mines served by cleaning plants. - Mechanical loading, both in underground mines and strip pits, appears to be closely related to mechanical cleaning. Table 49 shows the mining methods at mines having cleaning plants. Production of coal from strip mines in 1945 was 109,986,865 tons (see tables 44 and 45), of which 35,910,050 tons (32.6 percent) came from strip mines having mechanical cleaning tipples. Underground coal loaded mechanically in 1945 totaled 262,512,729 tons, of which 129,733,226 tons (49.4 percent) passed through tipples equipped with mechanical-cleaning devices. Hand-loaded underground coal production in 1945 totaled 205,117,733 tons, of which 23.7 percent passed through tipples equipped with cleaning plants.

TABLE 46. - BITUMINOUS COAL MECHANICALLY CLEANED BY WET AND PNEUMATIC METHODS, IN THE UNITED STATES, IN NET TONS OF CLEAN COAL, 1942-45

Method of cleaning	1942	1943	1944	1945	Change 1945 from 1944 (percent)
By wet methods:					
At mines	111,210,109	114,407,591	128,390,547	121,418,585	- 5.4
At consumer-operated cleaning plants	10,789,749	9,967,184	10,272,142	9,051,154	- 11.9
Total wet methods	121,999,858	124,374,775	138,662,689	130,469,739	- 5.9
By pneumatic methods	20,187,488	21,201,074	20,064,440	17,416,197	- 13.2
Grand total	142,187,346	145,575,849	158,727,129	147,885,936	- 6.8

TABLE 47. - BITUMINOUS COAL CLEANED IN THE UNITED STATES, BY TYPES OF EQUIPMENT IN ACTUAL OPERATION, 1944-45

(Coal cleaned and plants operated by consumers at central washeries in Colorado and Pennsylvania are included)

Type of equipment	Plants in operation		Net tons of clean coal		Cleaned by each type (percent of total)	
	1944	1945	1944	1945	1944	1945
Wet methods:						
Jigs	216	219	74,174,424	68,608,875	46.7	46.4
Concentrating tables	11	13	2,752,612	2,594,085	1.8	1.8
Jigs in combination with concentrating tables	18	16	4,649,192	4,754,311	2.9	3.2
Jigs in combination with launders and upward-current classifiers	19	18	8,535,393	8,454,561	5.4	5.7
Launders and upward-current classifiers	146	146	48,551,068	46,057,907	30.6	31.1
Total wet methods	410	412	138,662,689	130,469,739	87.4	88.2
Pneumatic methods	82	83	20,064,440	17,416,197	12.6	11.8
Grand total	1/ 492	1/ 495	158,727,129	147,885,936	100.0	100.0

1/ Number of plants using both wet and pneumatic methods was 53 in 1944 and 56 in 1945.

TABLE 48. - TOTAL PRODUCTION OF ALL COAL AT BITUMINOUS MINES IN THE UNITED STATES HAVING CLEANING PLANTS, IN NET TONS, 1944-45

(Does not include any estimate for mines that may ship to consumer-operated plants)

Type of equipment	1944	1945	Change 1945 from 1944 (percent)
Wet methods:			
Jigs	111,163,648	104,445,160	- 6.1
Concentrating tables	2,026,953	2,018,364	- .4
Jigs in combination with concentrating tables	5,271,277	5,039,409	- 4.4
Jigs in combination with launders and upward-current classifiers	13,026,722	12,394,420	- 4.9
Launders and upward-current classifiers	87,864,211	79,567,648	- 9.5
Total wet methods	219,352,811	203,465,001	- 7.3
Pneumatic methods	54,578,526	47,386,413	- 13.2
Grand total	273,931,337	250,851,414	- 8.4
Less duplications 1/	40,995,557	36,593,344	- 10.7
Net total	232,935,780	214,258,070	- 8.0
United States, total production 2/	619,576,240	577,617,327	- 6.8
Percent produced at mines having cleaning plants	37.6	37.1	—

1/ Mines using both wet and pneumatic methods.

2/ For purposes of historical comparison and statistical convenience, the figures include the output of lignite and of anthracite and semianthracite outside of Pennsylvania. There are no mechanical cleaning plants at lignite mines.

TABLE 49. - METHOD OF MINING AT BITUMINOUS-COAL MINES IN THE UNITED STATES SERVED BY CLEANING PLANTS, 1942-45

(Does not include any estimate for mines that may ship to consumer-operated plants)

Method of mining in use	Total net tons produced from mines that move coal to cleaning plants				Change 1945 from 1944 (percent)
	1942	1943	1944	1945	
Mined from strip pits	28,597,289	30,326,426	32,444,227	35,910,050	+ 10.7
Mechanically loaded underground	118,917,178	125,313,683	137,926,900	129,733,226	- 5.9
Hand-loaded underground	70,559,424	67,258,305	62,564,653	48,614,794	- 22.3
Total	218,073,891	222,898,414	232,935,780	214,258,070	- 8.0

TABLE 50. - BITUMINOUS COAL MECHANICALLY CLEANED BY WET AND PNEUMATIC METHODS IN THE UNITED STATES, BY STATES, 1944-45

(Coal cleaned and plants operated by consumers at central washeries in Colorado and Pennsylvania are included)

State	Plants in operation		Net tons of clean coal		Output mechanically cleaned (percent)	
	1944	1945	1944	1945	1944	1945
Alabama	55	53	14,453,892	13,831,185	77.1	75.8
Alaska	2	2	188,558	158,800	54.1	53.4
Arkansas	2	3	41,877	71,951	2.1	3.9
Colorado	8	7	1,131,259	1,135,679	13.9	15.0
Illinois	54	55	32,965,139	30,710,862	42.9	42.1
Indiana	20	20	11,667,478	11,135,525	41.7	44.2
Kansas	5	5	1,672,834	1,588,125	49.7	49.2
Kentucky	20	20	8,374,636	8,043,420	11.7	11.6
Michigan	1	1	17,880	11,949	12.8	9.5
Missouri	11	11	3,525,474	2,960,031	73.8	74.3
Montana	2	2	211,692	302,978	4.4	6.8
New Mexico	2	3	95,856	303,470	5.5	20.5
Ohio	10	10	6,362,939	6,292,400	18.8	19.2
Oklahoma	2	3	244,010	239,169	7.6	8.2
Oregon	---	1	---	13,072	---	79.2
Pennsylvania 1/	63	65	37,349,752	32,880,671	25.6	24.7
Tennessee	4	3	350,229	114,695	4.8	1.8
Utah	3	3	2,064,798	1,682,138	29.0	25.2
Virginia	20	20	3,670,435	3,623,548	18.8	21.0
Washington	22	20	1,254,605	1,114,360	82.3	82.1
West Virginia 2/	133	132	33,083,786	31,671,908	20.1	20.8
Total	3/ 439	4/ 439	158,727,129	147,885,936	25.6	25.6

1/ Includes some coal mined in Pennsylvania and cleaned in Ohio and a small tonnage mined in other States and cleaned at a consumer-operated plant in Pennsylvania.

2/ Includes some coal mined in West Virginia and cleaned in Ohio and Pennsylvania.

3/ Represents 53 plants using both wet and pneumatic methods of cleaning and 386 plants using only 1 cleaning method.

4/ Represents 56 plants using both wet and pneumatic methods of cleaning and 383 plants using only 1 cleaning method.

TABLE 51. - BITUMINOUS COAL MECHANICALLY CLEANED BY WET AND PNEUMATIC METHODS IN THE UNITED STATES, BY DISTRICTS, 1944-45

(Districts as defined in the Bituminous Coal Act of 1937 and modifications thereto. Coal cleaned and plants operated by consumers at central washeries in Colorado and Pennsylvania are included)

Minimum Price Area and Producing District	Plants in operation		Net tons of clean coal		Output mechanically cleaned (percent)	
	1944	1945	1944	1945	1944	1945
PRICE AREA 1						
Dist. 1. Eastern Pennsylvania 1/	33	35	12,667,310	10,882,697	20.7	19.2
Dist. 2. Western Pennsylvania 2/	30	30	24,682,442	21,997,974	28.2	27.8
Dist. 3. Northern West Virginia	8	9	3,232,154	3,390,993	6.8	7.5
Dist. 4. Ohio	10	10	6,362,939	6,292,400	18.8	19.2
Dist. 5. Michigan	1	1	17,880	11,949	12.8	9.5
Dist. 6. Panhandle 3/	2	2	985,243	1,104,375	18.2	24.0
Dist. 7. Southern Numbered 1	96	94	16,825,626	14,692,735	27.2	26.2
Dist. 8. Southern Numbered 2 4/	63	62	20,576,474	20,281,685	16.3	17.4
Total Price Area 1	243	243	85,350,068	78,654,808	20.1	20.1
PRICE AREA 2						
Dist. 9. West Kentucky	6	7	3,619,113	3,967,348	18.6	19.4
Dist. 10. Illinois	54	55	32,965,139	30,710,862	42.9	42.1
Dist. 11. Indiana	20	20	11,667,478	11,135,525	41.7	44.2
Dist. 12. Iowa	---	---	---	---	---	---
Total Price Area 2	80	82	48,251,730	45,813,735	38.2	38.0
PRICE AREA 3						
Dist. 13. Southeastern	57	54	14,694,368	13,847,620	72.3	70.8
PRICE AREA 4						
Dist. 14. Arkansas-Oklahoma	3	4	141,877	118,080	5.6	5.2
PRICE AREA 5						
Dist. 15. Southwestern:						
Bituminous	17	18	5,342,318	4,741,196	49.6	48.8
Lignite (Texas)	---	---	---	---	---	---
Total Price Area 5	17	18	5,342,318	4,741,196	48.8	48.4
PRICE AREA 6						
Dist. 16. Northern Colorado	---	---	---	---	---	---
Dist. 17. Southern Colorado 5/	10	10	1,227,115	1,439,149	18.0	22.6
Dist. 18. New Mexico 6/	---	---	---	---	---	---
Total Price Area 6	10	10	1,227,115	1,439,149	12.4	15.8
PRICE AREA 7						
Dist. 19. Wyoming 7/	---	---	---	---	---	---
Dist. 20. Utah	3	3	2,064,798	1,682,138	29.0	25.2
Total Price Area 7	3	3	2,064,798	1,682,138	12.4	10.2
PRICE AREA 8						
Dist. 21. North-South Dakota (lignite)	---	---	---	---	---	---
PRICE AREA 9						
Dist. 22. Montana (bituminous and lignite)	2	2	211,692	302,978	4.4	6.8
PRICE AREA 10						
Dist. 23. Washington 8/	22	21	1,254,605	1,127,432	82.2	82.1
Alaska	2	2	188,558	158,800	54.1	53.4
Total Price Area 10	24	23	1,443,163	1,286,232	77.0	77.0
Grand total 9/	10/ 439	11/ 439	158,727,129	147,885,936	25.6	25.6

1/ Includes Maryland, and Grant, Mineral, and Tucker Counties, West Virginia.

2/ Includes some coal mined in District 2 and cleaned in District 4 and a small tonnage mined in other districts and cleaned at a consumer-operated plant in District 2.

3/ Includes some coal mined in District 6 and cleaned in District 2.

4/ Includes some coal mined in District 8 and cleaned in District 4.

5/ Includes Colfax County, New Mexico.

6/ Includes Arizona and California, but excludes Colfax County, New Mexico. No production was reported for California.

7/ Includes Idaho. No production was reported for Idaho.

8/ Includes Oregon.

9/ For purposes of historical comparison and statistical convenience, the figures include the output of lignite and of anthracite and semianthracite outside of Pennsylvania. There are no mechanical cleaning plants at lignite mines.

10/ Represents 53 plants using both wet and pneumatic methods of cleaning and 386 plants using only 1 cleaning method.

11/ Represents 56 plants using both wet and pneumatic methods of cleaning and 383 plants using only 1 cleaning method.

TABLE 52. - RESULT OF OPERATIONS AT BITUMINOUS-COAL-CLEANING PLANTS IN THE UNITED STATES, BY STATES, IN NET TONS, IN 1945

State	Total raw coal moved to cleaning plants	Coal obtained in cleaning process	Refuse resulting in cleaning process	Ratio of refuse to raw coal (percent) 1/	Total production from mines that moved coal to cleaning plants
Alabama	17,491,649	13,831,185	3,660,464	20.9	14,661,420
Alaska	237,902	158,800	79,102	33.2	158,800
Arkansas	89,047	71,951	17,096	19.2	370,956
Colorado	158,271	149,126	9,145	5.8	645,293
Illinois	36,665,264	30,710,862	5,954,402	16.2	48,386,787
Indiana	13,084,269	11,135,525	1,948,744	14.9	14,861,531
Kansas	2,012,288	1,588,125	424,163	21.1	1,588,125
Kentucky	9,977,020	8,043,420	1,933,600	19.4	12,017,526
Michigan	14,936	11,949	2,987	20.0	93,028
Missouri	3,562,191	2,960,031	602,160	16.9	3,217,221
Montana	321,000	302,978	18,022	5.6	499,810
New Mexico	322,628	303,470	19,158	5.9	964,846
Ohio	8,247,118	6,292,400	1,954,718	23.7	8,635,747
Oklahoma	264,950	239,169	25,781	9.7	444,500
Oregon	17,979	13,072	4,907	27.3	16,500
Pennsylvania 2/	27,885,389	24,816,070	3,069,319	11.0	34,667,205
Tennessee	130,210	114,695	15,515	11.9	636,329
Utah	1,733,274	1,682,138	51,136	3.0	2,107,242
Virginia	3,896,626	3,623,548	273,078	7.0	9,079,349
Washington	1,363,774	1,114,360	249,414	18.3	1,207,045
West Virginia 3/	35,652,955	31,671,908	3,981,047	11.2	59,998,810
Total at mines only 4/.	163,128,740	138,834,782	24,293,958	14.9	214,258,070
Consumer plants 5/	9,770,627	9,051,154	719,473	7.4	---
Grand total	172,899,367	147,885,936	25,013,431	14.5	---

1/ In Alabama (for example) for every 100 tons of raw coal cleaned in 1945, an average of 20.9 tons of refuse was discarded and 79.1 tons of clean marketable coal was obtained.
2/ Includes some coal that was mined in Pennsylvania and cleaned in Ohio.
3/ Includes some coal that was mined in West Virginia and cleaned in Ohio and Pennsylvania.
4/ Includes all mechanical cleaning other than washeries operated by consumer steel companies.
5/ Includes Central washeries in Colorado and Pennsylvania operated by consumer steel companies.

TABLE 53. - RESULT OF OPERATIONS AT BITUMINOUS-COAL-CLEANING PLANTS IN THE UNITED STATES, BY DISTRICTS, IN NET TONS, IN 1945

(Districts as defined in the Bituminous Coal Act of 1937 and modifications thereto)

Minimum Price Area and Producing District	Total raw coal moved to cleaning plants	Coal obtained in cleaning process	Refuse resulting in cleaning process	Ratio of refuse to raw coal (percent) 1/	Total production from mines that moved coal to cleaning plants
PRICE AREA 1					
Dist. 1. Eastern Pennsylvania 2/	10,286,908	9,547,909	738,999	7.2	14,542,748
Dist. 2. Western Pennsylvania 3/	17,598,481	15,268,161	2,330,320	13.2	20,124,457
Dist. 3. Northern West Virginia	3,706,100	3,390,993	315,107	8.5	5,431,268
Dist. 4. Ohio	8,247,118	6,292,400	1,954,718	23.7	8,635,747
Dist. 5. Michigan	14,936	11,949	2,987	20.0	93,028
Dist. 6. Panhandle 4/	1,316,833	1,104,375	212,458	16.1	1,275,990
Dist. 7. Southern Numbered 1	16,589,726	14,692,735	1,896,991	11.4	39,275,714
Dist. 8. Southern Numbered 2 5/	23,116,994	20,281,685	2,835,309	12.3	30,512,603
Total Price Area 1	80,877,096	70,590,207	10,286,889	12.7	119,891,555
PRICE AREA 2					
Dist. 9. West Kentucky	4,909,858	3,967,348	942,510	19.2	4,862,859
Dist. 10. Illinois	36,665,264	30,710,862	5,954,402	16.2	48,386,787
Dist. 11. Indiana	13,084,269	11,135,525	1,948,744	14.9	14,861,531
Dist. 12. Iowa	---	---	---	---	---
Total Price Area 2	54,659,391	45,813,735	8,845,656	16.2	68,111,177
PRICE AREA 3					
Dist. 13. Southeastern	17,508,949	13,847,620	3,661,329	20.9	15,035,000
PRICE AREA 4					
Dist. 14. Arkansas-Oklahoma	142,097	118,080	24,017	16.9	417,374
PRICE AREA 5					
Dist. 15. Southwestern:					
Bituminous	5,786,379	4,741,196	1,045,183	18.1	5,203,428
Lignite (Texas)	---	---	---	---	---
Total Price Area 5	5,786,379	4,741,196	1,045,183	18.1	5,203,428
PRICE AREA 6					
Dist. 16. Northern Colorado	---	---	---	---	---
Dist. 17. Southern Colorado 6/	480,899	452,596	28,303	5.9	1,610,139
Dist. 18. New Mexico 7/	---	---	---	---	---
Total Price Area 6	480,899	452,596	28,303	5.9	1,610,139
PRICE AREA 7					
Dist. 19. Wyoming 8/	---	---	---	---	---
Dist. 20. Utah	1,733,274	1,682,138	51,136	3.0	2,107,242
Total Price Area 7	1,733,274	1,682,138	51,136	3.0	2,107,242
PRICE AREA 8					
Dist. 21. North-South Dakota (lignite)	---	---	---	---	---
PRICE AREA 9					
Dist. 22. Montana (bituminous and lignite)	321,000	302,978	18,022	5.6	499,810
PRICE AREA 10					
Dist. 23. Washington 9/	1,381,753	1,127,432	254,321	18.4	1,223,545
Alaska	237,902	158,800	79,102	33.2	158,800
Total Price Area 10	1,619,655	1,286,232	333,423	20.6	1,382,345
Total at mines only 10/	163,128,740	138,834,782	24,293,958	14.9	214,258,070
Consumer plants 11/	9,770,627	9,051,154	719,473	7.4	---
Grand total 12/	172,899,367	147,885,936	25,013,431	14.5	---

1/ In District 1 (for example) for every 100 tons of raw coal cleaned in 1945 an average of 7.2 tons of refuse was discarded and 92.8 tons of clean marketable coal was obtained.

2/ Includes Maryland, and Grant, Mineral, and Tucker Counties, West Virginia.

3/ Includes some coal mined in District 2 and cleaned in District 4.

4/ Includes some coal mined in District 6 and cleaned in District 2.

5/ Includes some coal mined in District 8 and cleaned in District 4.

6/ Includes Colfax County, New Mexico.

7/ Includes Arizona and California, but excludes Colfax County, New Mexico. No production was reported for California.

8/ Includes Idaho. No production was reported for Idaho.

9/ Includes Oregon.

10/ Includes all mechanical cleaning other than washeries operated by consumer steel companies.

11/ Includes central washeries in Colorado and Pennsylvania operated by consumer steel companies.

12/ For purposes of historical comparison and statistical convenience, the figures include the output of lignite and of anthracite and semianthracite outside of Pennsylvania. There are no mechanical cleaning plants at lignite mines.

DETAILED STATISTICS, BY STATES AND COUNTIES

Detailed production and employment statistics are given in table 54 for each coal-producing county in the United States from which three or more operators submitted reports for 1945. Statistics on counties with less than three reporting producers have been combined with data for other counties in the same State to avoid disclosing individual figures, unless permission to publish has been granted by the operators. Production of mines on the border between two States has been credited to the State from which the coal was extracted rather than to that in which the tipple was situated. If the coal is mined from lands in both States, the tonnage has been apportioned accordingly.

In this series the reported production is classified according to the principal methods of distribution or use. Beginning with 1932, the series was expanded to include data on the growing volume of coal moving from mine to consumer by truck. For 1933-36 this tonnage was shown as "Commercial sales by truck or wagon." In 1937 this tonnage was shown as "Truck deliveries, including local sales" (see Minerals Yearbook, 1939, p. 813). In 1938 the truck tonnage was shown as "Shipped by truck or wagon." The truck figures for 1933 to 1936, inclusive, and 1938 to 1945, inclusive, are reasonably comparable.

The data in the present report, as in those published for many years by the Bureau of Mines, relate only to mines with an annual output of 1,000 tons or more. That fact should be borne in mind when the statistics in this report are compared with similar data compiled by State mine departments. Differences arise largely from variations in coverage by State reports, some of which include data for all mines regardless of size, and others only data for mines employing more than a specified minimum number, ranging from 2 to 10 men. To meet the administrative demand for statistics on mines with an annual output of less than 1,000 tons per year, data for the small mines are shown in table 55. The average tons per man per day at the small mines was low due to part-time employment, lack of machinery, and difficult working conditions. The production shown in table 55 is not included in the total output shown in other tables for the United States, as this would upset the comparability of the statistical series.

Because of a change in method of reporting, statistics of average production per man per day for 1932 to 1936 and 1938 to 1941 are not precisely comparable with those for other years. For other years they were based upon the calculated number of man-shifts, obtained by multiplying the average number of men employed at each mine by the number of days worked at the mine. From 1932 to 1936 and 1938 to 1941 the operators were asked to make, if possible, a special report of the number of man-shifts actually worked. The number of operators able to furnish this information was small. These reports were utilized to improve the accuracy of the record. Otherwise, the man-shifts were calculated by multiplying the number employed underground and on the surface by the number of days worked by the mine and tipple, respectively.

TABLE 54. - PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES AND COUNTIES, IN 1945

(Exclusive of mines producing less than 1,000 tons)

County	Disposition of coal produced (net tons)					Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
	Loaded for shipment by rail or water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Used by mine employees, taken by locomotive tenders at tipple, or other uses at mine 2/	Used at mine for power and heat or made into beehive coke at mine	Total quantity		Underground	Surface		Total			
								In strip pits	All others				
ALABAMA													
Bibb	744,297	28,300	5,071	19,728	797,396	$4.65	771	27	237	1,035	273	282,799	2.82
Blount	107,381	100,462	298	1,654	209,795	3.94	290	53	68	411	222	91,353	2.30
Cherokee	—	1,310	—	—	1,310	3.92	2	—	—	2	280	560	2.34
Cullman	—	40,471	80	—	40,551	4.50	77	—	15	92	225	20,744	1.95
De Kalb	—	1,435	—	—	1,435	3.92	2	—	—	2	280	560	2.56
Etowah	—	1,095	—	—	1,095	3.92	2	—	—	2	210	420	2.61
Jackson	2,334	16,283	—	—	18,617	3.99	24	—	5	29	255	7,392	2.52
Jefferson	8,909,971	267,010	60,585	33,217	9,270,783	4.28	9,300	176	1,738	11,214	278	3,113,724	2.98
Marion	204,660	114,016	1,771	8	320,455	4.97	357	35	71	463	247	114,292	2.80
St. Clair	775,886	38,186	7,672	33,465	855,209	4.20	737	78	138	953	257	244,991	3.49
Shelby	404,534	70,567	2,992	934	479,027	4.62	581	—	104	685	264	180,686	2.65
Tuscaloosa	392,279	75,900	668	—	468,847	3.74	353	61	78	492	259	127,646	3.67
Walker	4,797,507	576,771	366,845	1,069	5,742,192	3.95	4,147	472	954	5,573	264	1,472,709	3.90
Winston	21,009	8,787	31	—	29,827	4.32	7	16	5	28	171	4,790	6.23
Total Alabama	16,359,858	1,340,593	446,013	4/ 90,075	18,236,539	4.19	16,650	918	3,413	20,981	270	5,662,666	3.22
ALASKA													
Total Alaska	264,132	23,274	1,425	4/ 8,813	297,644	$6.28	267	—	68	335	302	101,035	2.95
ARIZONA													
Total Arizona	—	3,853	—	—	3,853	$3.50	7	—	1	8	268	2,144	1.80
ARKANSAS													
Franklin	148,930	5,057	688	1,871	156,546	$4.46	168	30	39	237	196	46,402	3.37
Johnson	423,604	9,083	101	—	432,788	4.75	324	91	79	494	221	108,951	3.97
Logan	352,001	74	2,192	—	354,267	6.37	540	—	84	624	246	153,297	2.31
Sebastian	719,585	31,570	445	972	752,572	4.74	513	200	146	859	216	185,814	4.05
Other counties:													
Pope and Scott	137,905	19,848	—	—	157,753	4.96	15	96	51	162	126	20,356	7.75
Total Arkansas	1,782,025	65,632	3,426	4/ 2,843	1,853,926	5.05	1,560	417	399	2,376	217	514,820	3.60

See footnotes at end of table.

TABLE 54. - PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 - Continued

(Exclusive of mines producing less than 1,000 tons)

County	Disposition of coal produced (net tons)					Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
	Loaded for shipment by rail or water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Used by mine employees, taken by locomotive tenders at tipple, or other uses at mine 2/	Used at mine for power and heat or made into beehive coke at mine	Total quantity		Under-ground	Surface		Total			
								In strip pits	All others				
					COLORADO								
Boulder	206,527	262,254	4,027	4,291	477,099	$3.83	427	—	71	498	223	111,225	4.29
Delta	94,811	31,134	584	4,976	131,505	2.91	83	—	29	112	269	30,076	4.37
Elbert	—	1,618	—	115	1,733	2.08	3	—	1	4	201	804	2.16
El Paso	19,718	148,700	36,346	10,442	215,206	3.49	181	—	41	222	251	55,750	3.86
Fremont	222,361	327,427	2,348	63	552,199	4.14	377	—	77	454	261	118,382	4.66
Garfield	20,931	35,664	2	1,440	58,037	3.84	42	—	11	53	266	14,090	4.12
Gunnison	726,211	26,572	10,294	12,726	775,803	3.48	374	—	112	486	287	139,379	5.57
Huerfano	814,579	61,769	4,785	1,764	882,897	3.81	653	—	145	798	283	226,083	3.91
Jackson	6,400	4,496	—	—	10,896	3.61	—	8	1	9	182	1,639	6.64
Jefferson	107,905	30,145	973	743	139,766	3.08	93	—	18	111	256	28,392	4.92
La Plata	43,727	24,571	42	2	68,342	2.82	63	—	9	72	199	14,347	4.76
Las Animas	1,226,642	48,541	9,083	5/ 147,942	1,432,208	3.88	1,313	—	230	1,543	265	409,452	3.50
Mesa	85,648	20,110	614	360	106,732	3.27	81	—	15	96	268	25,714	4.15
Moffat	91,819	29,787	6,989	—	128,595	3.81	49	—	12	61	292	17,828	7.21
Montrose	—	17,404	11,957	—	29,361	4.02	27	—	3	30	200	5,994	4.90
Rio Blanco	—	11,392	43	—	11,435	3.78	10	—	2	12	258	3,090	3.70
Routt	1,005,441	27,828	17,356	42,669	1,093,294	3.98	662	30	240	932	274	255,630	4.28
Weld	1,144,435	329,274	10,121	22,074	1,505,904	3.31	775	—	162	937	238	223,196	6.75
Total Colorado	5,817,155	1,438,686	115,564	5/ 249,607	7,621,012	3.69	5,213	38	1,179	6,430	261	1,681,071	4.53
					GEORGIA								
Total Georgia	38,701	3,000	445	4/ 422	42,568	$3.85	64	10	15	89	256	22,798	1.87

See footnotes at end of table.

TABLE 54. - PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 - Continued

(Exclusive of mines producing less than 1,000 tons)

County	Disposition of coal produced (net tons)					Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
	Loaded for shipment by rail or water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Used by mine employees, taken by locomotive tenders at tipple, or other uses at mine 2/	Used at mine for power and heat or made into beehive coke at mine	Total quantity		Under-ground	Surface		Total			
								In strip pits	All others				
ILLINOIS													
Bureau	—	93,994	1,134	2,149	97,277	$3.35	49	14	31	94	166	15,643	6.22
Christian	7,314,564	125,563	28,152	24,558	7,492,837	1.81	1,814	—	548	2,362	275	650,287	11.52
Clinton	250,734	115,013	5,332	14,045	385,124	2.39	287	—	56	343	228	78,119	4.93
Edgar	—	30,672	—	2,919	33,591	2.81	40	—	5	45	166	7,470	4.50
Franklin	16,296,707	252,839	223,592	187,216	16,960,354	2.54	5,300	—	1,548	6,848	277	1,899,745	8.93
Fulton	6,706,606	326,855	11,103	7,603	7,052,167	2.22	298	525	677	1,500	240	359,721	19.60
Gallatin	92,412	17,993	1,100	3,000	114,505	2.30	77	10	19	106	191	20,204	5.67
Grundy	1,249,095	163,214	4,140	4,919	1,421,368	2.75	—	260	182	442	305	134,772	10.55
Henry	479,957	67,895	846	476	549,174	2.48	74	50	91	215	246	52,817	10.40
Jackson	2,700,504	147,118	11,164	2,393	2,861,179	2.23	780	48	244	1,072	285	305,192	9.38
Jefferson	565,225	28,695	2,780	25,326	622,026	2.38	180	—	82	262	259	67,858	9.17
Knox	522,487	131,509	1,393	2,870	658,259	2.50	103	30	89	222	293	65,032	10.12
La Salle	33,958	170,171	9,027	428	213,584	3.83	208	20	49	277	169	46,922	4.55
Livingston	—	7,559	100	—	7,659	3.88	—	8	—	8	227	1,816	4.22
Logan	—	60,602	—	250	60,852	3.27	48	—	9	57	196	11,164	5.45
Macon	—	27,161	700	1,822	29,683	4.13	56	—	7	63	172	10,836	2.74
Macoupin	4,962,538	191,816	26,663	147,012	5,328,029	1.98	2,019	—	493	2,512	276	692,216	7.70
Madison	1,078,554	869,845	17,729	69,668	2,035,796	2.33	1,061	—	253	1,314	248	326,348	6.24
Marion	135,279	13,548	713	6,270	155,810	2.19	111	—	43	154	144	22,176	7.03
Menard	—	49,376	285	2,940	52,601	2.89	64	—	12	76	264	20,032	2.63
Mercer	—	1,400	—	72	1,472	4.13	3	—	1	4	180	720	2.04
Montgomery	830,567	33,879	2,000	49,800	916,246	2.00	232	—	88	320	288	92,160	9.94
Peoria	382,011	258,595	3,531	1,316	645,453	2.28	375	—	53	428	230	98,614	6.55
Perry	4,210,873	106,898	17,843	45,675	4,381,289	2.26	691	288	520	1,499	247	370,317	11.83
Randolph	2,593,900	107,306	8,542	27,024	2,736,772	2.23	654	57	261	972	260	252,407	10.84
St. Clair	1,580,351	1,226,253	104,464	58,825	2,969,893	2.26	1,191	92	306	1,589	225	357,678	8.30
Saline	4,471,161	62,779	25,750	53,847	4,613,537	2.64	1,569	113	627	2,309	255	587,928	7.85
Sangamon	1,920,174	606,063	17,709	24,532	2,568,478	2.39	1,652	—	228	1,880	231	433,437	5.93
Schuyler	129,995	64,940	6,734	115	201,784	2.50	26	20	35	81	220	17,857	11.30
Tazewell	—	113,968	211	629	114,808	3.26	96	—	18	114	220	25,073	4.58
Vermilion	1,973,735	216,641	25,996	11,344	2,227,716	2.78	1,306	21	195	1,522	263	400,227	5.57
Warren	—	3,398	—	20	3,418	3.17	3	—	1	4	300	1,200	2.85
Washington	450,902	83,059	2,393	17,578	553,932	2.36	242	—	64	306	275	84,072	6.59
Will	321,442	133,406	607	785	456,240	2.73	—	70	60	130	281	36,498	12.50
Williamson	4,049,045	374,785	12,513	30,738	4,467,081	2.47	1,473	117	471	2,061	243	500,512	8.93
Woodford	—	19,100	—	2,098	21,198	5.46	49	—	8	57	256	14,592	1.45
Total Illinois	65,302,776	6,303,908	574,246	4/ 830,262	73,011,192	2.34	22,131	1,743	7,374	31,248	258	8,061,662	6/ 9.06

See footnotes at end of table.

TABLE 54. - PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 - Continued

(Exclusive of mines producing less than 1,000 tons)

County	Disposition of coal produced (net tons)					Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
	Loaded for shipment by rail or water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Used by mine employees, taken by locomotive tenders at tipple, or other uses at mine 2/	Used at mine for power and heat or made into beehive coke at mine	Total quantity		Underground	Surface		Total			
								In strip pits	All others				
INDIANA													
Clay	1,596,923	252,983	1,920	5,248	1,857,074	$2.55	40	362	233	635	230	146,214	12.70
Daviess	40,978	43,233	100	266	84,577	2.58	35	5	11	51	254	12,973	6.52
Fountain	3,760	84,485	—	—	88,245	3.42	—	14	13	27	321	8,669	10.18
Gibson	827,829	163,449	200	27,529	1,019,007	2.75	451	—	76	527	241	127,094	8.02
Greene	1,145,329	3,935	405	9,430	1,159,099	2.31	238	152	144	534	197	105,002	11.04
Knox	3,452,472	474,791	15,740	26,148	3,969,151	2.21	1,284	47	450	1,781	240	428,191	9.27
Owen	—	1,962	—	—	1,962	2.97	—	5	—	5	64	320	6.13
Parke	—	40,324	151	689	41,164	3.13	56	—	11	67	206	13,772	2.99
Perry	—	2,450	—	—	2,450	2.50	3	—	—	3	200	600	4.08
Pike	4,003,533	65,049	14,963	10,283	4,093,828	2.14	27	422	472	921	248	228,596	17.91
Spencer	77,403	127,760	175	550	205,888	3.03	22	56	23	101	201	20,344	10.12
Sullivan	2,941,315	121,948	6,794	17,830	3,087,887	2.46	902	248	401	1,551	228	353,023	8.75
Vermillion	283,076	111,940	400	3,590	399,006	2.27	76	57	77	210	183	38,361	10.40
Vigo	4,351,034	364,189	467,099	22,806	5,205,128	2.32	1,743	120	372	2,235	257	573,960	9.07
Warrick	3,663,770	252,277	4,138	587	3,920,772	2.19	343	342	351	1,036	272	281,923	13.91
Other counties:													
Dubois and Vanderburgh	9,545	36,258	200	1,370	47,373	2.94	76	—	12	88	138	12,163	3.89
Total Indiana	22,396,967	2,147,033	512,285	4/ 126,326	25,182,611	2.32	5,296	1,830	2,646	9,772	241	2,351,205	6/ 10.71

See footnotes at end of table.

TABLE 54. - PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 - Continued

(Exclusive of mines producing less than 1,000 tons)

County	Disposition of coal produced (net tons)					Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
	Loaded for shipment by rail or water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Used by mine employees, taken by locomotive tenders at tipple, or other uses at mine 2/	Used at mine for power and heat or made into beehive coke at mine	Total quantity		Underground	Surface		Total			
								In strip pits	All others				
					IOWA								
Appanoose	152,645	119,102	3,701	463	275,911	$4.00	479	—	60	539	198	106,590	2.59
Boone	61,191	23,166	1,438	949	86,744	3.85	100	—	12	112	243	27,216	3.19
Dallas	230,147	71,779	1,532	855	304,313	3.66	240	—	56	296	259	76,800	3.96
Davis	800	5,392	—	—	6,192	3.05	—	6	6	12	57	680	9.11
Greene	—	10,371	192	118	10,681	3.68	8	—	2	10	280	2,800	3.81
Guthrie	—	4,851	45	3	4,899	5.02	14	—	3	17	152	2,579	1.90
Jasper	—	17,370	178	—	17,548	4.07	21	—	4	25	239	5,981	2.93
Lucas	46,671	45,084	1,141	1,148	94,044	3.56	100	—	11	111	179	19,827	4.74
Mahaska	119,344	74,073	555	15	193,987	3.35	17	77	44	138	250	34,554	5.61
Marion	319,559	200,885	2,755	1,528	524,727	3.08	310	61	95	466	205	95,609	5.49
Monroe	125,463	74,023	2,371	462	202,319	3.32	208	5	31	244	231	56,363	3.59
Page	—	5,046	—	—	5,046	6.00	8	—	3	11	180	1,980	2.55
Polk	—	127,015	2,562	652	130,229	4.21	160	—	17	177	206	36,500	3.57
Van Buren	110	33,541	721	40	34,412	3.55	26	12	10	48	234	11,228	3.06
Wapello	2,453	122,571	520	601	126,145	3.15	70	41	19	130	193	25,055	5.03
Warren	—	7,088	—	—	7,088	3.14	5	—	1	6	300	1,800	3.94
Wayne	—	6,621	—	57	6,678	4.00	12	—	1	13	218	2,840	2.35
Webster	1,610	12,727	300	—	14,637	3.73	13	—	3	16	280	4,480	3.27
Total Iowa	1,059,993	960,705	18,011	4/ 6,891	2,045,600	3.51	1,791	202	378	2,371	216	512,882	3.99
					KANSAS								
Bourbon	154,124	17,437	144	1,145	172,850	$2.50	—	46	19	65	217	14,129	12.23
Cherokee	1,203,231	55,982	3,830	1,594	1,264,637	2.49	20	246	150	416	238	98,851	12.79
Crawford	1,643,110	49,227	5,857	4,040	1,702,234	2.52	207	315	157	679	248	168,195	10.12
Leavenworth	55	3,965	44,173	885	49,078	5.00	180	—	50	230	305	70,150	.70
Linn	—	5,273	—	44	5,317	4.02	14	—	3	17	229	3,890	1.37
Osage	—	30,234	193	—	30,427	4.92	64	15	8	87	193	16,811	1.81
Other counties: Franklin and Labette	—	4,016	—	—	4,016	4.58	5	2	1	8	235	1,878	2.14
Total Kansas	3,000,520	166,134	54,197	4/ 7,708	3,228,559	2.57	490	624	388	1,502	249	373,904	7/ 8.63

See footnotes at end of table.

TABLE 54. - PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 - Continued

(Exclusive of mines producing less than 1,000 tons)

County	Disposition of coal produced (net tons)					Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
	Loaded for shipment by rail or water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Used by mine employees, taken by locomotive tenders at tipple, or other uses at mine 2/	Used at mine for power and heat or made into beehive coke at mine	Total quantity		Under-ground	Surface		Total			
								In strip pits	All others				
					KENTUCKY								
Eastern Kentucky:													
Bell	2,489,174	429,456	25,189	186	2,944,005	$3.44	2,573	—	449	3,022	242	732,466	4.02
Boyd	7,432	77,438	200	3,729	88,799	2.91	101	17	24	142	230	32,695	2.72
Breathitt	13,319	45,971	—	—	59,290	3.25	73	—	18	91	227	20,632	2.87
Carter	58,531	134,357	556	2,769	196,213	3.14	189	—	49	238	241	57,398	3.42
Clay	171,462	151,021	127	—	322,610	3.43	435	36	113	584	208	121,514	2.65
Floyd	6,535,070	77,897	17,730	204	6,630,901	3.35	4,530	—	834	5,364	255	1,366,811	4.85
Greenup	—	16,200	—	—	16,200	2.81	26	—	4	30	232	6,960	2.33
Harlan	11,404,815	112,815	95,737	8/ 10,954	11,624,321	3.53	8,596	—	1,498	10,094	267	2,690,718	4.32
Jackson	—	108,459	131	3,722	112,312	3.06	137	—	42	179	244	43,647	2.57
Johnson	710,301	23,967	5,452	1,855	741,575	3.76	669	—	106	775	253	195,876	3.79
Knott	884,841	11	4,161	—	889,013	3.26	586	—	71	657	258	169 683	5.24
Knox	502,777	178,480	3,554	500	685,311	3.28	647	—	125	772	232	178,780	3.83
Laurel	272,526	353,190	716	—	626,432	3.22	430	90	98	618	238	147,117	4.26
Lawrence	1,935	13,735	60	627	16,357	2.93	28	—	6	34	210	7,149	2.29
Lee	5,691	22,280	100	50	28,121	3.15	56	—	10	66	232	15,294	1.84
Leslie	250,654	38,113	—	—	288,767	3.74	188	—	43	231	252	58,104	4.97
Letcher	5,445,901	645,369	40,849	5,985	6,138,104	3.41	4,612	—	735	5,347	246	1,314,196	4.67
Magoffin	110,215	7,510	20	—	117,745	3.19	116	—	20	136	271	36,829	3.20
Martin	425,766	21,248	420	—	447,434	2.90	237	—	51	288	238	68,662	6.52
McCreary	851,146	77,902	10,271	13,650	952,969	3.40	664	—	94	758	287	217,733	4.38
Menifee	—	21,207	120	—	21,327	3.03	27	—	6	33	276	9,120	2.34
Morgan	—	15,000	—	—	15,000	3.50	19	—	4	23	212	4,868	3.08
Perry	5,771,935	96,041	128,743	1,450	5,998,169	3.33	4,276	53	762	5,091	254	1,290,595	4.65
Pike	8,639,315	469,851	85,220	8/ 128,541	9,322,927	3.07	6,035	47	1,406	7,488	257	1,926,923	4.84
Pulaski	12,898	237,681	428	—	251,007	3.07	170	27	39	236	265	62,452	4.02
Rockcastle	5,422	57,310	190	28	62,950	2.75	64	9	16	89	229	20,424	3.08
Wayne	—	24,631	44	—	24,675	3.49	32	—	7	39	253	9,872	2.50
Whitley	249,823	252,915	4,639	—	507,377	3.34	479	18	125	622	223	138,938	3.65
Wolfe	—	6,600	—	—	6,600	2.98	11	—	2	13	201	2,608	2.53
Other counties:													
Clinton and Elliott	—	12,031	—	22	12,053	2.89	12	4	3	19	254	4,818	2.50
Total Eastern Kentucky	44,820,949	3,728,686	424,657	8/ 174,272	49,148,564	3.35	36,018	301	6,760	43,079	254	10,952,882	4.49

See footnotes at end of table.

TABLE 54. - PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 - Continued

(Exclusive of mines producing less than 1,000 tons)

County	Disposition of coal produced (net tons)					Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
								Surface					
	Loaded for shipment by rail or water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Used by mine employees, taken by locomotive tenders at tipple, or other uses at mine 2/	Used at mine for power and heat or made into beehive coke at mine	Total quantity		Underground	In strip pits	All others	Total			
KENTUCKY - Continued													
Western Kentucky:													
Butler	—	282,112	—	—	282,112	$2.44	168	14	44	226	266	60,112	4.69
Christian	1,068	26,625	—	—	27,693	2.66	20	12	12	44	149	6,536	4.24
Daviess	139,163	337,793	161	162	477,279	2.43	238	32	65	335	247	82,718	5.77
Edmonson	—	31,500	—	—	31,500	2.38	48	—	9	57	208	11,845	2.66
Hancock	—	58,784	—	—	58,784	2.72	48	—	12	60	250	15,005	3.92
Henderson	3,235	200,312	112	1,749	205,408	1.99	191	—	37	228	219	49,886	4.12
Hopkins	10,279,359	536,023	24,460	6,101	10,845,943	2.18	2,615	420	953	3,988	258	1,028,901	10.54
McLean	17,240	68,600	—	—	85,840	2.61	75	—	11	86	237	20,350	4.22
Muhlenberg	5,364,473	666,346	20,868	27,528	6,079,215	2.15	2,311	142	624	3,077	255	784,086	7.75
Ohio	337,753	302,507	1,593	—	641,853	2.37	318	30	112	460	244	112,253	5.72
Union	690,762	81,651	—	8,428	780,841	2.07	315	—	60	375	268	100,476	7.77
Webster	809,387	117,580	257	680	927,904	2.15	408	44	91	543	214	116,174	7.99
Total Western Kentucky.	17,642,440	2,709,833	47,451	44,648	20,444,372	2.18	6,755	694	2,030	9,479	252	2,388,342	6/ 8.56
Total Kentucky	62,463,389	6,438,519	472,108	8/ 218,920	69,592,936	3.00	42,773	995	8,790	52,558	254	13,341,224	5.22

See footnotes at end of table.

TABLE 54. - PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 - Continued

(Exclusive of mines producing less than 1,000 tons)

County	Disposition of coal produced (net tons)					Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
	Loaded for shipment by rail or water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Used by mine employees, taken by locomotive tenders at tipple, or other uses at mine 2/	Used at mine for power and heat or made into beehive coke at mine	Total quantity		Underground	Surface		Total			
								In strip pits	All others				
					MARYLAND								
Allegany	808,089	229,807	3,636	241	1,041,773	$3.74	747	109	142	998	257	256,645	4.06
Garrett	649,210	64,922	3,835	2,963	720,930	3.41	582	32	123	737	257	189,394	3.81
Total Maryland	1,457,299	294,729	7,471	4/ 3,204	1,762,703	3.61	1,329	141	265	1,735	257	446,039	3.95
					MICHIGAN								
Bay	—	11,130	309	1,846	13,285	$5.42	21	—	6	27	266	7,182	1.85
Saginaw	—	18,016	349	1,026	19,391	5.85	31	—	6	37	260	9,620	2.02
Tuscola	49,803	36,062	984	6,179	93,028	5.40	90	—	19	109	271	29,539	3.15
Total Michigan	49,803	65,208	1,642	4/ 9,051	125,704	5.47	142	—	31	173	268	46,341	2.71
					MISSOURI								
Adair	36,014	83,035	200	2,109	121,358	$3.27	161	—	31	192	226	43,353	2.80
Barton	189,452	52,362	649	5	242,468	2.63	27	57	31	115	199	22,888	10.59
Bates	989,744	3,097	724	—	993,565	2.36	—	116	100	216	233	50,429	19.70
Boone	—	51,410	—	—	51,410	2.10	—	11	2	13	272	3,534	14.55
Callaway	—	189,076	30	300	189,406	2.76	—	65	30	95	307	29,130	6.50
Clay	—	45,586	1,064	419	47,069	4.66	96	—	13	109	169	18,390	2.56
Dade	—	7,450	30	—	7,480	4.06	—	9	—	9	235	2,118	3.53
Daviess	—	10,300	270	—	10,570	5.43	21	—	2	23	257	5,911	1.79
Harrison	—	5,007	78	630	5,715	3.93	14	—	3	17	256	4,358	1.31
Henry	553,118	90,177	—	—	643,295	2.30	—	97	43	140	246	34,392	18.70
Jasper	—	4,505	—	—	4,505	3.25	—	6	—	6	218	1,308	3.44
Johnson	43,465	9,039	—	—	52,504	2.38	—	12	3	15	246	3,694	14.21
Lafayette	6,732	54,375	1,687	720	63,514	4.40	150	—	21	171	221	37,805	1.68
Linn	2,230	15,515	—	—	17,745	3.74	33	—	6	39	201	7,850	2.26
Macon	434,623	89,018	1,922	—	525,563	2.36	74	88	82	244	228	55,632	9.45
Moniteau	—	1,067	—	—	1,067	2.89	—	3	—	3	99	297	3.59
Monroe	—	6,484	—	—	6,484	3.24	—	9	—	9	308	2,772	2.34
Putnam	—	15,729	60	—	15,789	3.94	38	—	6	44	200	8,807	1.79
Randolph	426,122	55,814	70	—	482,006	2.57	94	47	59	200	225	44,916	10.73
Ray	8,132	59,965	990	—	69,087	4.97	149	—	18	167	212	35,381	1.95
Vernon	330,800	100,104	1,200	20	432,124	2.56	—	119	25	144	248	35,683	12.11
Total Missouri	3,020,432	949,115	8,974	4/ 4,203	3,982,724	2.59	857	639	475	1,971	228	448,648	7/ 8.88

See footnotes at end of table.

TABLE 54. - PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 - Continued

(Exclusive of mines producing less than 1,000 tons)

County	Disposition of coal produced (net tons)					Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
	Loaded for shipment by rail or water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Used by mine employees, taken by locomotive tenders at tipple, or other uses at mine 2/	Used at mine for power and heat or made into beehive coke at mine	Total quantity		Under-ground	Surface		Total			
								In strip pits	All others				
					MONTANA								
Montana bituminous coal:													
Carbon	524,664	34,570	4,594	743	564,571	$3.35	211	---	99	310	245	75,807	7.45
Cascade	186,879	22,780	183	120	209,962	2.17	101	---	15	116	190	22,044	9.52
Musselshell	1,030,613	45,060	5,625	2,874	1,084,172	2.70	402	---	183	585	276	161,261	6.72
Rosebud	2,552,403	---	---	2,805	2,555,208	1.17	---	86	20	106	303	32,122	79.55
Other counties:													
Blaine and Chouteau	---	11,243	35	---	11,278	4.47	18	---	3	21	233	4,891	2.31
Total bituminous	4,294,559	113,653	10,437	6,542	4,425,191	1.88	732	86	320	1,138	260	296,125	6/14.94
Montana lignite	---	9/ 41,597	(9)	---	41,597	2.38	31	2	7	40	196	7,828	5.31
Total Montana	4,294,559	155,250	10,437	4/ 6,542	4,466,788	1.89	763	88	327	1,178	258	303,953	6/ 14.70
					NEW MEXICO								
Bernalillo	---	3,089	30	---	3,119	$4.32	4	---	1	5	207	1,035	3.01
Colfax	1,079,657	7,776	4,593	3,408	1,095,434	3.53	585	---	151	736	302	222,328	4.93
McKinley	222,016	37,765	2,708	34,477	296,966	4.66	282	8	87	377	217	81,678	3.64
Rio Arriba	14,280	4,249	25	---	18,554	3.37	21	---	6	27	180	4,856	3.82
Sandoval	---	4,347	4	---	4,351	4.50	8	---	2	10	134	1,342	3.24
San Juan	---	14,627	100	---	14,727	3.31	29	---	4	33	194	6,390	2.30
Santa Fe	26,342	14,764	967	6,165	48,238	4.77	68	---	45	113	310	35,030	1.38
Socorro	---	2,197	---	100	2,297	5.37	8	---	2	10	184	1,840	1.25
Total New Mexico	1,342,295	88,814	8,427	4/ 44,150	1,483,686	3.80	1,005	8	298	1,311	270	354,499	4.19
					NORTH DAKOTA (LIGNITE)								
Total North Dakota	2,023,257	430,445	9/ 47,486	4/ 21,131	2,522,319	$1.56	227	282	248	757	226	171,251	6/ 14,73

See footnotes at end of table.

TABLE 54. - PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 - Continued

(Exclusive of mines producing less than 1,000 tons)

County	Disposition of coal produced (net tons)					Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
	Loaded for shipment by rail or water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Used by mine employees, taken by locomotive tenders at tipple, or other uses at mine 2/	Used at mine for power and heat or made into beehive coke at mine	Total quantity		Underground	Surface		Total			
								In strip pits	All others				
					OHIO								
Athens	1,777,556	96,414	10,901	1,200	1,886,071	$3.28	1,333	66	396	1,795	210	377,326	5.00
Belmont	7,810,890	257,187	36,437	3,013	8,107,527	2.85	3,998	305	846	5,149	262	1,347,453	6.02
Carroll	210,468	250,049	2,136	32	462,685	2.88	220	55	49	324	254	82,310	5.62
Columbiana	161,789	624,859	649	94	787,391	2.88	118	144	77	339	246	83,316	9.45
Coshocton	35,625	315,984	819	1,543	353,971	3.02	240	34	57	331	210	69,391	5.10
Gallia	27,912	90,875	30	—	118,817	3.11	108	—	19	127	249	31,593	3.76
Guernsey	246,491	109,709	1,262	775	358,237	2.97	312	19	46	377	212	80,004	4.48
Harrison	6,416,394	39,863	7,813	13,878	6,477,948	2.63	934	647	529	2,110	263	554,860	11.67
Hocking	533,606	131,155	307	—	665,068	3.26	414	74	107	595	203	120,962	5.50
Holmes	—	33,386	18	19	33,423	2.81	17	10	17	44	166	7,310	4.57
Jackson	86,357	84,573	17,933	30	188,893	3.52	176	17	39	232	229	53,186	3.55
Jefferson	5,102,148	850,171	15,211	6,035	5,973,565	2.77	1,373	477	661	2,511	256	643,211	9.29
Lawrence	1,664	80,021	213	203	82,101	2.41	100	—	15	115	244	28,060	2.93
Mahoning	13,009	167,696	347	2,024	183,076	3.06	14	63	17	94	195	18,358	9.97
Meigs	320,369	62,508	260	5	383,142	3.00	278	10	70	358	248	88,657	4.32
Morgan	345,757	28,655	200	—	374,612	2.94	177	20	44	241	282	67,955	5.51
Muskingum	1,013,878	204,927	1,431	420	1,220,656	2.27	647	60	138	845	211	177,904	6.86
Noble	198,979	22,963	—	—	221,942	1.81	—	52	20	72	143	10,298	21.55
Perry	2,373,541	221,771	4,483	103	2,599,898	2.81	1,121	357	369	1,847	202	373,849	6.95
Stark	—	253,651	372	—	254,023	2.93	36	63	29	128	251	32,129	7.91
Tuscarawas	116,988	1,616,705	386	573	1,734,652	2.56	500	199	133	832	260	216,153	8.03
Vinton	55,453	85,852	114	45	141,464	3.17	47	65	22	134	204	27,295	5.18
Wayne	—	42,503	—	—	42,503	2.57	9	23	12	44	94	4,116	10.33
Other counties:													
Portage and Washington	—	85,770	—	—	85,770	2.83	3	17	4	24	339	8,144	10.53
Total Ohio	26,848,874	5,757,247	101,322	4/ 29,992	32,737,435	2.79	12,175	2,777	3,716	18,668	241	4,503,840	6/ 7.27

See footnotes at end of table.

TABLE 54. - PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 - Continued

(Exclusive of mines producing less than 1,000 tons)

County	Disposition of coal produced (net tons)					Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
	Loaded for shipment by rail or water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Used by mine employees, taken by locomotive tenders at tipple, or other uses at mine 2/	Used at mine for power and heat or made into beehive coke at mine	Total quantity		Underground	Surface		Total			
								In strip pits	All others				
OKLAHOMA													
Coal	275,266	36,708	61	—	312,035	$4.05	32	69	43	144	224	32,205	7/ 9.69
Craig	—	8,216	—	—	8,216	3.42	—	8	—	8	234	1,872	4.39
Haskell	107,667	2,207	289	—	110,163	3.98	131	36	26	193	172	33,119	3.33
Latimer	27,982	8,770	38	—	36,790	4.67	36	19	22	77	128	9,829	3.74
Le Flore	281,836	11,627	387	3,192	297,042	5.13	423	—	82	505	211	106,545	2.79
Muskogee	134,753	3,592	—	—	138,345	2.84	—	51	15	66	266	17,530	7/ 7.89
Okmulgee	671,168	26,473	—	1,621	699,262	3.65	407	20	77	504	274	137,983	5.07
Pittsburg	235,093	6,989	468	3,271	245,821	4.82	324	11	80	415	194	80,547	3.05
Rogers	412,871	33,976	216	6,792	453,855	2.75	—	91	59	150	262	39,226	7/ 11.57
Tulsa	3,174	10,494	28	30	13,726	4.71	27	—	7	34	244	8,280	1.66
Wagoner	571,924	21,797	—	—	593,721	2.72	—	81	53	134	246	32,900	7/ 18.05
Total Oklahoma	2,721,734	170,849	1,487	4/ 14,906	2,908,976	3.61	1,380	386	464	2,230	224	500,036	5.82
OREGON													
Total Oregon	7,718	8,752	30	—	16,500	$3.99	24	—	13	37	192	7,104	2.32

See footnotes at end of table.

TABLE 54. - PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 - Continued

(Exclusive of mines producing less than 1,000 tons)

County	Disposition of coal produced (net tons)					Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
	Loaded for shipment by rail or water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Used by mine employees, taken by locomotive tenders at tipple, or other uses at mine 2/	Used at mine for power and heat or made into beehive coke at mine	Total quantity		Underground	Surface		Total			
								In strip pits	All others				
					PENNSYLVANIA (BITUMINOUS COAL)								
Allegheny	13,298,176	2,581,731	1,175,068	4,351	17,059,326	$3.13	8,051	860	1,648	10,559	261	2,757,876	6.19
Armstrong	5,623,703	151,007	48,608	566	5,823,884	3.15	3,045	385	671	4,101	249	1,021,709	5.70
Beaver	32,394	262,822	192	90	295,498	3.08	123	67	44	234	254	59,367	4.98
Bedford	680,210	92,778	1,353	—	774,341	3.88	607	94	111	812	245	198,843	3.89
Blair	40,585	93,787	1,051	—	135,423	3.77	119	6	22	147	272	39,958	3.39
Butler	673,111	528,392	11,632	43	1,213,178	3.21	540	249	158	947	249	235,708	5.15
Cambria	14,031,437	709,431	1,625,813	10/ 211,491	16,578,172	3.61	11,897	321	2,466	14,684	264	3,870,118	4.28
Cameron	—	3,471	—	—	3,471	2.19	4	—	—	4	200	800	4.34
Centre	1,105,192	243,846	1,065	156	1,350,259	3.19	682	266	193	1,141	241	274,664	4.92
Clarion	2,628,337	363,658	10,014	190	3,002,199	2.96	775	527	281	1,583	260	411,898	7/ 7.29
Clearfield	6,280,178	367,351	11,554	27,780	6,686,863	3.36	2,689	1,410	954	5,053	220	1,110,872	7/ 6.02
Clinton	22,006	74,867	5	20	96,898	3.01	54	11	17	82	234	19,183	5.05
Elk	344,707	161,934	2,310	18,832	527,783	3.28	462	11	100	573	244	139,896	3.77
Fayette	15,388,155	1,576,184	192,526	10/3,589,940	20,746,805	3.29	12,401	351	1,723	14,475	265	3,838,854	5.40
Forest	—	5,865	—	—	5,865	3.00	5	—	3	8	311	2,488	2.36
Greene	6,885,076	19,626	17,740	15,714	6,938,156	3.24	3,884	109	865	4,858	253	1,227,597	5.65
Huntingdon	596,315	156,892	4,927	2,400	760,534	3.92	423	199	97	719	255	183,304	4.15
Indiana	8,755,764	335,059	339,201	10/ 326,629	9,756,653	3.24	4,921	692	1,179	6,792	256	1,735,612	5.62
Jefferson	1,798,037	223,413	29,031	4,133	2,054,614	3.14	1,282	241	266	1,789	233	416,787	4.93
Lawrence	---	137,060	12	4	137,076	3.01	20	25	13	58	245	14,207	7/ 9.65
Lycoming	---	43,816	120	—	43,936	3.31	33	8	9	50	247	12,373	3.55
Mercer	333,454	229,594	2,402	56	565,506	3.27	109	89	44	242	265	64,137	7/ 8.82
Somerset	6,979,825	253,984	27,240	48,175	7,309,224	3.46	4,224	383	921	5,528	268	1,480,511	4.94
Tioga	130,366	88,586	343	3,646	222,941	3.88	157	34	37	228	256	58,274	3.83
Venango	7,227	45,308	—	—	52,535	3.24	10	12	6	28	183	5,128	7/10.24
Washington	18,601,384	702,771	326,607	34,339	19,665,101	3.27	11,104	846	2,116	14,066	260	3,653,282	5.38
Westmoreland	8,486,501	1,258,848	206,540	10/1,185,944	11,137,833	3.10	5,341	736	1,070	7,147	254	1,815,990	6.13
Other counties:													
Bradford and McKean	—	21,219	40	10	21,269	3.24	5	15	8	28	171	4,775	4.45
Total Pennsylvania	112,722,140	10,733,300	4,035,394	10/5,474,509	132,965,343	3.29	72,967	7,947	15,022	95,936	257	24,654,211	5.39

See footnotes at end of table.

TABLE 54. - PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 - Continued

(Exclusive of mines producing less than 1,000 tons)

County	Disposition of coal produced (net tons)					Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
	Loaded for shipment by rail or water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Used by mine employees, taken by locomotive tenders at tipple, or other uses at mine 2/	Used at mine for power and heat or made into beehive coke at mine	Total quantity		Underground	Surface		Total			
								In strip pits	All others				
SOUTH DAKOTA (LIGNITE)													
Total South Dakota	5,360	9/ 19,085	(9)	—	24,445	$2.17	4	11	—	15	259	3,881	6.30
TENNESSEE													
Anderson	1,190,531	6,677	9,522	410	1,207,140	$3.34	854	19	153	1,026	247	253,572	4.76
Bledsoe	40,613	4,162	574	—	45,349	3.37	69	—	10	79	178	14,084	3.22
Campbell	1,471,584	19,822	33,066	1,300	1,525,772	3.72	1,229	29	258	1,516	254	384,978	3.96
Claiborne	1,308,143	46,919	19,380	139	1,374,581	3.35	1,097	—	224	1,321	233	308,406	4.46
Fentress	233,688	28,281	2,131	—	264,100	3.25	188	—	29	217	283	61,480	4.30
Grundy	381,065	—	9,760	690	391,515	3.64	391	—	56	447	242	108,281	3.62
Hamilton	140,552	12,369	50	—	152,971	3.42	79	48	18	145	194	28,086	5.45
Marion	496,790	63,887	7,725	1,307	569,709	3.32	682	—	120	802	229	183,730	3.10
Morgan	115,481	9,095	1,435	11,283	137,294	2.48	163	—	32	195	241	46,917	2.93
Overton	110,016	4,042	14,517	765	129,340	3.22	108	—	21	129	269	34,705	3.73
Putnam	59,326	48,018	—	—	107,344	3.50	83	—	14	97	249	24,153	4.44
Scott	242,791	4,300	1,298	—	248,389	3.15	218	14	40	272	217	58,970	4.21
Sequatchie	42,149	46,160	53	25	88,387	3.62	140	—	20	160	226	36,151	2.44
Van Buren	400	1,080	—	—	1,480	3.43	5	—	1	6	206	1,236	1.20
White	—	5,800	—	—	5,800	2.89	8	—	1	9	204	1,840	3.15
Other counties: Cumberland and Rhea	10,281	10,956	100	200	21,537	3.39	42	—	9	51	190	9,676	2.23
Total Tennessee	5,843,410	311,568	99,611	4/ 16,119	6,270,708	3.43	5,356	110	1,006	6,472	240	1,556,265	4.03
TEXAS (LIGNITE)													
Total Texas	79,051	—	898	—	79,949	$0.85	—	19	7	26	158	4,096	7/ 19.52

See footnotes at end of table.

TABLE 54. - PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 - Continued

(Exclusive of mines producing less than 1,000 tons)

County	Disposition of coal produced (net tons)					Average value per ton [3]	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
	Loaded for shipment by rail or water [1]	Shipped by truck or wagon (excluding coal used by mine employees)	Used by mine employees, taken by locomotive tenders at tipple, or other uses at mine [2]	Used at mine for power and heat or made into beehive coke at mine	Total quantity		Under-ground	Surface		Total			
								In strip pits	All others				
					UTAH								
Carbon	4,245,856	95,497	39,367	[11] 14,356	4,395,076	$3.47	1,795	—	661	2,456	293	718,846	6.11
Emery	2,097,790	67,550	4,211	11,424	2,180,975	3.32	893	—	265	1,158	293	338,982	6.43
Garfield	—	1,382	14	3	1,399	3.00	2	—	—	2	150	300	4.66
Grand	37,189	—	132	—	37,321	3.22	19	—	6	25	296	7,400	5.04
Iron	—	9,577	—	—	9,577	3.61	10	—	1	11	257	2,827	3.39
Kane	—	2,985	—	—	2,985	3.50	4	—	—	4	230	920	3.24
Sevier	—	31,186	—	—	31,186	3.08	32	—	7	39	162	6,335	4.92
Summit	3,682	15,862	—	—	19,544	2.50	11	—	4	15	209	3,129	6.25
Uintah	—	1,000	—	—	1,000	4.36	5	—	1	6	200	1,200	.83
Total Utah	6,384,517	225,039	43,724	[11] 25,783	6,679,063	3.41	2,771	---	945	3,716	291	1,079,939	[12] 6.18
					VIRGINIA								
Buchanan	5,165,219	22,628	19,943	—	5,207,790	$3.35	2,803	28	535	3,366	286	961,382	5.42
Dickenson	1,561,956	3,186	12,348	750	1,578,240	3.35	1,194	—	232	1,426	291	414,635	3.81
Lee	803,050	59,753	11,904	1,235	875,942	3.46	725	—	126	851	258	219,812	3.98
Montgomery	166,428	16,034	2,245	1,196	185,903	3.55	157	—	41	198	263	52,030	3.57
Russell	965,532	62,890	11,125	995	1,040,542	3.35	842	—	124	966	265	256,144	4.06
Scott	—	26,552	3,362	—	29,914	3.30	36	—	6	42	238	9,975	3.00
Tazewell	3,989,948	16,360	41,273	13,620	4,061,201	3.78	3,218	—	708	3,926	283	1,112,103	3.65
Wise	3,832,460	105,150	26,195	291,656	4,255,461	3.22	3,202	70	614	3,886	269	1,044,545	4.07
Total Virginia	16,484,593	312,553	128,395	[13] 309,452	17,234,993	3.43	12,177	98	2,386	14,661	278	4,070,626	4.23
					WASHINGTON								
King	179,852	256,481	2,671	155	439,159	$5.66	356	65	109	530	260	137,956	3.18
Kittitas	595,415	29,851	20,029	10,687	655,982	4.91	384	35	162	581	286	166,350	3.94
Lewis	10,323	58,392	349	45	69,109	4.32	65	—	11	76	282	21,451	3.22
Pierce	8,201	7,955	120	24	16,300	5.52	16	—	2	18	236	4,244	3.84
Thurston	54,318	8,621	436	—	63,375	3.44	37	—	9	46	231	10,626	5.96
Whatcom	70,854	37,790	903	3,772	113,319	5.56	93	—	31	124	285	35,318	3.21
Total Washington	918,963	399,090	24,508	[4] 14,683	1,357,244	5.12	951	100	324	1,375	273	375,945	3.61

See footnotes at end of table.

TABLE 54. - PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 - Continued

(Exclusive of mines producing less than 1,000 tons)

County	Disposition of coal produced (net tons)					Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
	Loaded for shipment by rail or water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Used by mine employees, taken by locomotive tenders at tipple, or other uses at mine 2/	Used at mine for power and heat or made into beehive coke at mine	Total quantity		Underground	Surface: In strip pits	Surface: All others	Total			
WEST VIRGINIA													
Barbour	2,876,358	6,631	6,630	31	2,889,650	$2.76	928	290	342	1,560	253	394,425	12/ 7.33
Boone	4,610,062	67,416	28,647	1,000	4,707,125	3.33	2,601	27	673	3,301	260	859,785	5.47
Braxton	15,660	8,306	32	—	23,998	2.85	29	—	6	35	232	8,124	2.95
Brooke	736,981	308,151	896,878	213	1,942,223	2.79	627	177	150	954	258	246,325	6/ 7.88
Clay	1,144,928	10,642	14,328	24,912	1,194,810	3.30	600	4	142	746	292	217,781	5.49
Fayette	11,875,881	32,031	410,241	14/ 198,721	12,516,874	3.57	7,847	371	1,521	9,739	277	2,698,359	4.64
Gilmer	8,939	5,343	—	—	14,282	2.13	9	4	5	18	162	2,912	4.90
Grant	—	26,938	50	—	26,988	3.54	41	—	9	50	263	13,164	2.05
Greenbrier	2,489,931	41,217	13,583	443	2,545,174	3.67	1,388	165	281	1,834	270	494,515	5.15
Hancock	—	69,936	55	1,042	71,033	2.88	3	36	11	50	153	7,665	7/ 9.27
Harrison	12,524,215	239,972	66,754	135	12,831,076	2.80	2,591	1,515	1,204	5,310	240	1,271,975	6/ 10.09
Kanawha	7,593,985	149,415	52,136	6,660	7,802,196	3.25	5,016	—	953	5,969	277	1,651,687	4.72
Lewis	—	15,279	196	1	15,476	2.50	16	—	4	20	193	3,852	4.02
Logan	20,946,701	9,847	135,962	25,400	21,117,910	3.07	9,631	—	2,820	12,451	266	3,315,421	12/ 6.37
Marion	9,510,018	183,368	455,069	23,189	10,171,644	2.85	4,501	196	1,074	5,771	261	1,506,689	12/ 6.75
Marshall	705,562	88,033	209,197	17,474	1,020,266	3.05	590	11	105	706	271	191,582	6/ 5.33
Mason	113,513	137,664	479	—	251,656	3.15	137	—	49	186	250	46,505	5.41
McDowell	23,044,889	98,443	304,732	76,964	23,525,028	3.31	13,886	23	2,986	16,895	288	4,872,807	4.83
Mercer	2,785,144	13,365	31,960	767	2,831,236	3.62	1,980	—	564	2,544	288	732,141	3.87
Mineral	313,732	22,644	481	—	336,857	3.75	140	59	52	251	215	53,939	7/ 6.25
Mingo	5,028,164	25,409	38,223	157	5,091,953	3.17	2,991	26	605	3,622	273	989,364	12/ 5.15
Monongalia	9,368,423	309,093	13,442	14/ 36,341	9,727,299	2.74	3,659	159	1,085	4,903	254	1,243,914	12/ 7.82
Nicholas	1,359,734	25,969	5,379	14/ 19,635	1,410,717	3.41	865	54	136	1,055	271	285,873	4.93
Ohio	1,373,687	189,472	12,348	10	1,575,517	3.04	1,096	—	165	1,261	271	341,619	4.61
Preston	1,738,781	42,707	116,839	14/ 169,161	2,067,488	3.17	1,244	135	307	1,686	266	448,859	4.61
Raleigh	14,086,842	49,690	132,053	48,611	14,317,196	3.54	9,320	163	1,874	11,357	279	3,163,424	4.53
Randolph	1,812,739	80,063	9,415	19,488	1,921,705	3.29	1,042	117	269	1,428	265	378,101	5.08
Taylor	1,228,328	177,905	1,942	—	1,408,175	2.91	489	130	125	744	232	172,915	6/ 8.14
Tucker	687,217	5,355	3,171	26,752	722,495	3.60	382	65	84	531	264	140,384	5.15
Upshur	478,735	38,840	925	3,822	522,322	2.73	288	22	69	379	251	95,222	5.49
Wayne	324,209	11,800	12	—	336,021	2.15	233	—	53	286	240	68,699	4.89
Webster	1,942,933	11,972	7,674	2,345	1,964,924	3.42	961	—	269	1,230	291	358,154	5.49
Wyoming	5,027,038	22,790	40,184	21,337	5,111,349	3.57	3,017	—	684	3,701	268	991,346	12/ 5.16
Other counties:													
Lincoln and Putnam	4,988	16,256	25	800	22,069	2.60	35	—	10	45	186	8,358	2.64
Total West Virginia	145,758,317	2,541,962	3,009,042	14/ 725,411	152,034,732	3.20	78,183	3,749	18,686	100,618	271	27,275,885	5.57

See footnotes at end of table.

TABLE 54. - PRODUCTION, VALUE, EMPLOYMENT, DAYS ACTIVE, MAN-DAYS, AND OUTPUT PER MAN PER DAY AT BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES AND COUNTIES, IN 1945 - Continued

(Exclusive of mines producing less than 1,000 tons)

County	Disposition of coal produced (net tons)					Average value per ton 3/	Average number of employees				Average number of days mines were active	Number of man-days worked	Average tons per man per day
	Loaded for shipment by rail or water 1/	Shipped by truck or wagon (excluding coal used by mine employees)	Used by mine employees, taken by locomotive tenders at tipple, or other uses at mine 2/	Used at mine for power and heat or made into beehive coke at mine	Total quantity		Under-ground	Surface		Total			
								In strip pits	All others				
					WYOMING								
Carbon	1,437,237	13,409	4,327	27,093	1,482,066	$2.62	272	70	127	469	335	156,980	9.44
Fremont	—	7,825	40	—	7,865	3.99	10	—	4	14	203	2,845	2.76
Hot Springs	131,893	22,327	100	3,049	157,369	4.15	106	—	25	131	283	37,043	4.25
Johnson	—	6,595	105	275	6,975	2.94	6	—	3	9	200	1,797	3.88
Lincoln	496,140	1,079	3,385	280	500,884	3.38	263	---	72	335	296	99,140	5.05
Sheridan	1,256,486	28,604	2,287	1,343	1,288,720	2.31	226	39	94	359	266	95,368	13.51
Sweetwater	6,137,804	12,809	33,557	67,120	6,251,290	2.93	2,555	---	623	3,178	326	1,036,031	6.03
Uinta	2,041	1,949	—	—	3,990	3.11	6	—	2	8	79	632	6.31
Other counties: Campbell, Converse, and Teton	110,228	28,488	552	9,148	148,416	1.89	4	20	24	48	189	9,095	16.32
Total Wyoming	9,571,829	123,085	44,353	4/ 108,308	9,847,575	2.83	3,448	129	974	4,551	316	1,438,931	6/ 6.84
					UNITED STATES								
Total United States	518,019,667	41,477,428	9,770,921	8,349,311	577,617,327	3.06	290,001	23,261	69,838	383,100	261	99,866,901	5.78

1/ Includes coal loaded at mine directly into railroad cars or river barges, hauled by truck to railroad siding for shipment by rail, and hauled by truck to waterway for shipment by water.

2/ Includes coal transported from mine to point of use by conveyor or tram.

3/ Value received or charged for coal, f.o.b. mine, including selling cost. (Includes a value for coal not sold but used by producer, such as mine fuel and coal coked /not coke/ as estimated by producer at average prices that might have been received if such coal had been sold commercially.)

4/ No coal was "Made into beehive coke at mine."

5/ Includes 129,837 tons "Made into beehive coke at mine"in Las Animas County.

6/ Output obtained chiefly from strip pits and by use of mechanical loading devices, in which types of operations production per man per day is large.

7/ Output obtained chiefly from strip pits in which the production per man per day is large.

8/ Includes coal "Made into beehive coke at mine" in the following counties: Harlan, 3,975 tons; Pike, 120,178 - Grand total 123,153 tons.

9/ In Montana and South Dakota some lignite included in "Shipped by truck or wagon" includes "Other uses at mine." In North Dakota some lignite made into briquets is included in "Other uses at mine."

10/ Includes coal "Made into beehive coke at mine" in the following counties: Cambria, 5,424 tons; Fayette, 3,568,964; Indiana, 233,996; and Westmoreland, 1,151,994 - Grand total, 4,960,378 tons.

11/ Includes 7,889 tons "Made into beehive coke at mine" in Carbon County.

12/ Output is obtained chiefly by use of mechanical devices in which type of operation production per man per day is large.

13/ Includes 284,785 tons "Made into beehive coke at mine" in Wise County.

14/ Includes coal "Made into beehive coke at mine" in the following counties: Fayette, 176,585 tons; Monongalia, 35,955; Nicholas, 19,635; and Preston, 167,696 - Grand total 399,871 tons.

TABLE 55. - SUMMARY OF DATA ON MINES IN THE UNITED STATES PRODUCING LESS THAN 1,000 TONS A YEAR, BY STATES AND DISTRICTS, IN 1945 1/

(Figures compiled from schedules actually received and supplemented by State Mine Inspectors' Reports where available. Not possible to obtain complete coverage. Data shown in table not included in other parts of this report.)

State or district	Number of active mines	Total production (net tons)	Average value per ton	Average number of employees	Average number of days mines were active	Number of man-days worked	Average tons per man per day
States							
Alabama	30	13,889	3.85	73	115	8,393	1.65
Alaska	2	1,158	5.79	8	45	360	3.22
Arizona	1	373	5.28	1	210	210	1.78
Arkansas	24	7,578	4.99	79	74	5,843	1.30
California	1	132	3.50	2	210	420	.31
Colorado	63	25,093	3.59	134	110	14,800	1.70
Idaho	1	69	6.96	2	64	128	.54
Illinois	52	16,772	2.84	137	75	10,338	1.62
Indiana	30	12,678	3.11	76	93	7,049	1.80
Iowa	36	19,183	3.73	151	65	9,803	1.96
Kansas	8	3,213	3.16	18	94	1,697	1.89
Kentucky	328	156,856	2.94	809	90	72,783	2.16
Maryland	49	22,934	3.39	104	102	10,623	2.16
Missouri	40	16,525	3.85	118	93	11,006	1.50
Montana	17	7,106	3.58	28	137	3,841	1.85
New Mexico	21	9,649	3.77	49	153	7,509	1.28
Ohio	224	87,198	2.87	471	85	40,000	2.18
Oklahoma	25	10,801	4.57	72	90	6,471	1.67
Oregon	2	1,410	6.47	7	258	1,806	.78
Pennsylvania	269	121,473	3.00	616	90	55,713	2.18
Tennessee	22	11,997	3.14	70	105	7,331	1.64
Utah	9	3,807	3.57	16	131	2,093	1.82
Virginia	15	5,603	3.07	35	93	3,250	1.72
Washington	6	3,230	4.83	19	125	2,377	1.36
West Virginia	206	75,876	2.91	501	65	32,565	2.33
Wyoming	18	9,168	3.77	36	116	4,186	2.19
Total	1,499	643,771	3.16	3,632	88	320,595	2.01
Producing districts 2/							
Dist. 1. Eastern Pennsylvania	236	109,040	3.13	526	95	50,223	2.17
Dist. 2. Western Pennsylvania	97	41,059	2.96	224	83	18,501	2.22
Dist. 3. Northern West Virginia	68	29,152	2.55	147	73	10,792	2.70
Dist. 4. Ohio	224	87,198	2.87	471	85	40,000	2.18
Dist. 5. Michigan	—	—	—	—	—	—	—
Dist. 6. Panhandle	9	2,779	3.11	15	65	968	2.87
Dist. 7. Southern Numbered 1	25	10,925	3.46	94	47	4,424	2.47
Dist. 8. Southern Numbered 2	416	185,478	2.99	1,022	87	89,264	2.08
Dist. 9. West Kentucky	28	10,343	2.36	66	76	4,987	2.07
Dist. 10. Illinois	52	16,772	2.84	137	75	10,338	1.62
Dist. 11. Indiana	30	12,678	3.11	76	93	7,049	1.80
Dist. 12. Iowa	36	19,183	3.73	151	65	9,803	1.96
Dist. 13. Southeastern	40	19,852	3.57	114	101	11,499	1.73
Dist. 14. Arkansas-Oklahoma	31	10,395	4.95	100	76	7,612	1.37
Dist. 15. Southwestern	66	27,722	3.95	187	93	17,405	1.59
Dist. 16. Northern Colorado	6	2,551	3.45	12	118	1,418	1.80
Dist. 17. Southern Colorado	63	26,176	3.58	139	127	17,586	1.49
Dist. 18. New Mexico	17	6,520	4.04	35	112	3,935	1.66
Dist. 19. Wyoming	19	9,237	3.80	38	114	4,314	2.14
Dist. 20. Utah	9	3,807	3.57	16	131	2,093	1.82
Dist. 22. Montana	17	7,106	3.58	28	137	3,841	1.85
Dist. 23. Washington and Oregon	10	5,798	5.42	34	134	4,543	1.28
Total	1,499	643,771	3.16	3,632	88	320,595	2.01

1/ Data on small lignite mines in Montana, North Dakota, South Dakota, and Texas not available.

2/ For boundaries of districts, see Bituminous Coal Act of 1937 and modifications thereto.

STATISTICAL SUMMARY OF LIGNITE IN 1945 1/

The production of lignite in 1945, exclusive of small mines producing less than 1,000 tons, totaled 2,668,310 net tons, according to the Bureau of Mines, United States Department of the Interior. The average value per ton was $1.55. The total employees numbered 838 and the average output per man per day, based upon calculated man-days was 14.26 tons. The output per man per day is high in the lignite industry compared with other coal mining in the United States because a large part of the total production, 74 percent in 1945, is recovered from strip pits where the average output per man per day is much higher than in deep mining. The number of lignite mines reporting production of more than 1,000 tons in 1945 totaled 65. Mechanical loading underground was not used to any great extent, as only 3 operations in North Dakota and 1 in Montana reported the use of mobile loaders.

As for many years in the past, North Dakota was the chief producer of lignite in 1945, followed in order by Texas, Montana, and South Dakota. The North Dakota output comprised 95 percent of the total production, that of Texas, South Dakota, and Montana taken together, 5 percent.

According to the Federal Power Commission, 668,636 tons of lignite were consumed in the West North Central States for generating electric energy in 1945; 39 tons, in the West South Central States; and 338,130 tons, a large part of which was subbituminous, in the Mountain States.

The Bureau of Mines prepared this report from an annual canvass of operators of lignite properties included in the areas mapped as "lignite" in Geological Survey Professional Paper 100-A, The Coal Fields of the United States. Subbituminous coal is not included. The data on individual operations are voluntary and confidential, as is customary in the statistical surveys of the Bureau.

1/ Compiled by J. A. Corgan and M. I. Cooke.

TABLE 56. - PRODUCTION, VALUE, MEN EMPLOYED, DAYS OPERATED, MAN-DAYS OF LABOR, AND OUTPUT PER MAN PER DAY AT LIGNITE MINES IN THE UNITED STATES, 1945 1/

(Includes all coal produced in the areas mapped as "lignite" in Geological Survey Professional Paper 100-A. Note that subbituminous coal, sometimes known as "black lignite," is not included.)

	Montana 2/	North Dakota	South Dakota	Texas	Total
Production (net tons):					
Loaded at mines for shipment	---	2,023,257	5,360	79,051	2,107,668
Commercial sales by truck or wagon	3/ 41,597	430,445	3/ 19,085	---	491,127
Used by employees, taken by locomotives at tipple, and other uses	(3)	4/ 47,486	(3)	898	48,384
Used at mines for power and heat	---	21,131	---	---	21,131
Total production: 1945	41,597	2,522,319	24,445	79,949	2,668,310
1944	51,709	2,366,092	26,827	109,532	2,554,160
Value:					
Total: 1945	$99,000	$3,924,000	$53,000	$68,000	$4,144,000
1944	$113,000	$3,535,000	$55,000	$95,000	$3,798,000
Average per ton: 1945	$2.38	$1.56	$2.17	$0.85	$1.55
1944	$2.19	$1.49	$2.05	$0.87	$1.49
Number of employees:					
Underground	31	227	4	---	262
Surface (including strip pits)	9	530	11	26	576
Total employees: 1945	40	757	15	26	838
1944	55	826	28	36	945
Average number of days mines operated:					
1945	196	226	259	158	223
1944	173	213	177	198	209
Man-days of labor: 1945 5/	7,828	171,251	3,881	4,096	187,056
Average tons per man per day: 1945 5/	5.31	14.73	6.30	19.52	14.26

1/ Exclusive of small mines producing less than 1,000 tons. In 1944 tonnage from such mines amounted to 22,644 net tons.

2/ Includes output of Custer, Dawson, McCone, Richland, Roosevelt and Sheridan Counties.

3/ Some "Other uses" is included in "Commercial sales by truck or wagon."

4/ Includes some lignite made into briquets.

5/ Based upon calculated man-days.

TABLE 57. - PRODUCTION, VALUE, MEN EMPLOYED, MAN-DAYS OPERATED, AND OUTPUT PER MAN PER DAY AT LIGNITE MINES IN THE UNITED STATES IN 1945, BY STATES AND COUNTIES

(Includes coal produced in the areas mapped as "lignite" in U. S. Geological Survey Professional Paper 100-A. Note that subbituminous coal, sometimes known as "black lignite," is not included.)

County	Total tons produced (net tons)	Value: Total (thousand dollars)	Value: Average per ton	Total number of employees	Man-days of labor 1/	Average number of days mines operated	Average tons per man per day 1/
MONTANA							
Custer	15,080	37	$2.45	13	1,992	153	7.57
Dawson	2,560	6	2.34	4	720	180	3.56
McCone	1,133	3	2.65	2	270	135	4.20
Richland	6,409	14	2.18	8	1,600	200	4.01
Roosevelt	2,933	12	4.09	6	1,356	226	2.16
Sheridan	13,482	27	2.00	7	1,890	270	7.13
Total	41,597	99	2.38	40	7,328	196	5.31
NORTH DAKOTA							
Adams	60,633	111	$1.83	36	3,973	110	2/ 15.26
Bowman	4,495	11	2.45	7	1,050	150	4.23
Burke	414,833	616	1.48	74	16,364	221	2/ 25.35
Burleigh	222,586	382	1.72	69	13,973	203	15.93
Divide	206,709	277	1.34	32	7,168	224	2/ 28.84
Dunn	4,834	13	2.69	6	1,200	200	4.03
Grant	17,700	44	2.49	10	1,698	170	2/ 10.42
Hettinger	20,281	49	2.42	15	3,073	205	2/ 6.60
McKenzie	5,938	15	2.53	8	1,068	134	5.56
McLean	46,605	115	2.47	61	10,835	178	4.30
Mercer	848,455	1,239	1.46	230	60,179	262	2/ 14.10
Morton	21,462	57	2.66	27	5,413	200	3.96
Oliver	5,500	9	1.64	5	950	190	2/ 5.79
Stark	77,347	132	1.71	50	12,883	258	6.00
Ward	548,060	816	1.49	111	29,249	264	2/ 18.74
Williams	16,881	38	2.25	16	2,175	136	7.76
Total	2,522,319	3,924	1.56	757	171,251	226	14.73
SOUTH DAKOTA							
Dewey	17,092	34	$1.99	8	2,416	302	2/ 7.07
Harding	1,833	5	2.73	2	400	200	4.58
Perkins	5,520	14	2.54	5	1,065	213	2/ 5.18
Total	24,445	53	2.17	15	3,881	259	6.30
TEXAS							
Milam	79,949	68	$0.85	26	4,096	158	2/ 19.52

1/ Based upon "calculated" man-days. 2/ Output is obtained chiefly from strip pits in which the production per man per day is large.

NUMBER AND SIZE OF MINES

For 1945 the Bureau of Mines received reports from 65 lignite mines (exclusive of mines producing less than 1,000 tons a year). Most of the operations were located in North Dakota which State accounted for 53; Montana was next in order with 7 mines; and South Dakota and Texas followed with 4 and 1, respectively. In the field as a whole the classification by size of output was as follows:

TABLE 58. - NUMBER AND PRODUCTION OF LIGNITE MINES, CLASSIFIED BY SIZE OF OUTPUT, IN 1945

Class	Mines		Production		
	Number	Percent	Total (Net tons)	Average per mine (Net tons)	Percent
1 (100,000 tons and over).........	7	10.8	2,122,778	303,254	79.6
2 (50,000-100,000)...............	3	4.6	192,967	64,322	7.2
3 (10,000-50,000)................	10	15.4	203,146	20,315	7.6
4 (1,000-10,000).................	45	69.2	149,419	3,320	5.6
Total......................	65	100.0	2,668,310	41,051	100.0

LENGTH OF WORKING DAY

Reports from operators in the lignite fields in 1945 show that 68 percent of the total mines reporting were working an 8-hour day. The men employed at these mines accounted for 66 percent of the total men employed at the lignite mines. Eight mines working 7-hour or 9-hour shifts employed 7 percent of the men working in the industry. Mines working less than 7 or more than 9 hours or not reporting the length of shifts numbered 13 and accounted for 27 percent of the total men employed in the lignite industry.

TABLE 59. - NUMBER OF LIGNITE MINES IN THE UNITED STATES HAVING ESTABLISHED WORKING SHIFT OF CERTAIN LENGTH, AND NUMBER OF MEN EMPLOYED THEREIN, IN 1945

STATE	7 hours		8 hours		9 hours		Not reporting, and all others 1/		Total	
	Mines	Men	Mines	Men	Mines	Men	Mines	Men	Mines	Men
Montana....................	2	9	5	31	—	—	—	—	7	40
North Dakota..............	2	29	35	482	3	17	13	229	53	757
South Dakota..............	—	—	3	13	1	2	—	—	4	15
Texas......................	—	—	1	26	—	—	—	—	1	26
Total................	4	38	44	552	4	19	13	229	65	838

1/ Includes mines where days were more than 9 or less than 7 hours, also includes many small mines which failed to answer the question.

LIGNITE LOADED FOR SHIPMENT BY INDIVIDUAL RAILROADS

TABLE 60. - LIGNITE LOADED FOR SHIPMENT IN 1945 BY INDIVIDUAL RAILROADS IN THE UNITED STATES, AS REPORTED BY OPERATORS, IN NET TONS

Railroad	State	Quantity
Great Northern..	North Dakota..............	574,532
Chicago, Milwaukee, St. Paul & Pacific..............................	(North Dakota..............	33,739
	(South Dakota..............	5,360
Northern Pacific..	North Dakota..............	805,645
Minneapolis, St. Paul & Sault Ste. Marie............................	North Dakota..............	609,341
Rockdale, Sandow & Southern...	Texas......................	79,051
Total..	....	2,107,668

STRIPPING OPERATIONS

The production of lignite from strip pits in 1945 amounted to 1,962,168 tons--74 percent of the total output of the industry. As for many years in the past most of the stripping--that is 95 percent of all strip-pit production and 70 percent of the total tonnage produced by the lignite industry--was done in North Dakota where 1,859,674 tons were produced by that method. The output from stripping operations in Texas, Montana and South Dakota was only 102,494 tons. The number of men employed in stripping operations was 482 with an average output per man per day of 18.66 tons and the average number of days worked was 218.

Detailed statistics for stripping operations in the lignite industry are shown in the following table.

TABLE 61. - SUMMARY OF STRIPPING OPERATIONS THAT PRODUCED LIGNITE IN THE UNITED STATES IN 1945 BY STATES

	Montana	North Dakota	South Dakota	Texas	Total
Number of strip pits 1/	1	30	2	1	34
Number of shovels, dragline excavators, and coal-loading machines 2/	1	43	2	2	48
Coal produced:					
By stripping	1,133	1,859,674	21,412	79,949	1,962,168
Total value at mines	$3,000	$2,841,000	$45,000	$68,000	$2,957,000
Average value per ton	$2.65	$1.53	$2.10	$0.85	$1.51
Number of employees:					
In strip pits	2	282	11	19	314
All others	---	161	---	7	168
Total	2	443	11	26	482
Average number of days mines operated .	135	220	295	158	218
Man-days of labor 3/	270	97,573	3,241	4,096	105,180
Average tons per man per day 3/	4.20	19.06	6.61	19.52	18.66

1/ Includes some pits in which the stripping is done by hand.

2/ In some cases the same equipment was used for stripping or excavating and for loading the coal; this duplication has been eliminated. In some cases the coal was excavated by machine and loaded by hand.

3/ Based upon calculated man-days.

METHODS OF RECOVERY

TABLE 62. - LIGNITE MINED BY DIFFERENT METHODS IN THE UNITED STATES IN 1945, BY STATES, IN NET TONS

	Montana	North Dakota	South Dakota	Texas	Total
From underground workings:					
Mined by hand	---	12,943	---	---	12,943
Shot off the solid	40,464	26,168	3,033	---	69,665
Cut by machines 1/	---	623,534	---	---	623,534
Total underground	40,464	662,645	3,033	---	706,142
From strip pits	1,133	1,859,674	21,412	79,949	1,962,168
Grand total production	41,597	2,522,319	24,445	79,949	2,668,310

1/ A total of 16 machines was used--13 "permissible" and 3 other types.

IMPORTS AND EXPORTS [4]

TABLE 63. - BITUMINOUS COAL [1] IMPORTED FOR CONSUMPTION IN THE UNITED STATES, 1943-45, BY COUNTRIES AND CUSTOMS DISTRICTS, IN NET TONS

Country	1943	1944	1945
North America:			
Canada	746,573	631,988	466,565
Mexico	72	—	1
South America:			
Chile	—	68	—
Colombia	—	16	—
Peru	—	—	7
Europe:			
U.S.S.R.	—	370	—
United Kingdom	10,989	1,221	577
Oceania:			
Australia	—	—	318
New Zealand	—	—	2
Africa:			
Union of South Africa	—	26	3
	757,634	633,689	467,473
Customs District			
Alaska	33,349	19,930	—
Buffalo	483	—	—
Chicago	—	—	2
Dakota	604	340	491
Duluth and Superior	123	166	327
Los Angeles	—	68	—
Maine and New Hampshire	106,853	108,709	105,020
Maryland	784	—	—
Massachusetts	5,542	—	—
Michigan	—	(2)	84
Montana and Idaho	498,072	430,734	276,055
New York	4,258	1,263	731
Oregon	—	370	—
Philadelphia	1,383	866	—
Pittsburgh	—	—	8
St. Lawrence	—	—	97
San Francisco	—	—	16
Vermont	—	—	786
Virginia	—	—	151
Washington	106,183	71,243	83,643
Wisconsin	—	—	62
	757,634	633,689	467,473

1/ Includes slack, culm, and lignite.
2/ Less than 1 ton

TABLE 64. - EXPORTS OF BITUMINOUS COAL TO CANADA AND MEXICO, THE WEST INDIES AND CENTRAL AMERICA, [1] AND "OVERSEAS" DESTINATIONS, 1943-45, IN THOUSANDS OF NET TONS

Country	1943	1944	1945
Canada and Mexico	24,272	24,369	21,581
West Indies and Central America 1/	462	356	295
"Overseas" (all other countries):			
Newfoundland, Miquelon, Bermuda, Greenland and Iceland	111	157	191
South America	589	580	1,080
Europe	294	218	3,916
Asia	—	(2)	(2)
Africa	108	352	873
Oceania	—	—	11
Total "Overseas"	1,102	1,307	6,071
Grand total	25,836	26,032	27,947

1/ Includes Bahamas and Panama.
2/ Less than 1,000 net tons.

---

[4] Figures on imports and exports compiled by M. B. Price of the Bureau of Mines from records of the U. S. Department of Commerce.

TABLE 65. - BITUMINOUS COAL EXPORTED FROM THE UNITED STATES, 1943-45, BY COUNTRIES, IN NET TONS 1/

Country	1943	1944	1945
North America:			
Bermuda	6,261	6,873	8,234
Canada	24,269,585	24,366,929	21,578,281
Central America:			
British Honduras	66	38	424
Costa Rica	168	2,551	26
El Salvador	---	96	71
Guatemala	94	172	190
Honduras	103	619	400
Nicaragua	7	48	3
Panama:			
Canal Zone	47,757	53,626	25,667
Republic of	6	13	13
Greenland	2,836	1,170	940
Mexico	2,323	2,981	2,629
Newfoundland and Labrador	102,207	149,050	181,663
West Indies:			
British:			
Barbados	---	3,572	2,006
Jamaica	19,757	45,741	38,102
Trinidad and Tobago	143,597	73,739	110,252
Other British	114	4,002	2,318
Cuba	233,728	148,559	99,706
Curacao (N.W.I.)	172	347	971
Dominican Republic	69	1,985	971
French	16,132	20,469	13,661
Haiti	16	36	35
	24,844,998	24,882,616	22,066,562
South America:			
Argentina	128,172	196,165	313,784
Bolivia	20,409	26,571	5,240
Brazil	337,969	289,434	665,112
Chile	16,438	15,991	6,359
Falkland Islands	1,214	94	106
Surinam	2,299	4,345	2,218
Uruguay	82,819	46,944	86,879
Other South America	9	211	821
	589,329	579,755	1,080,519
Europe:			
Azores	8,359	---	4,698
Belgium and Luxembourg	---	---	436,644
Denmark	---	---	199,244
France	---	---	624,378
Gibraltar	---	---	144,603
Greece	---	---	37,351
Italy	---	---	1,102,351
Netherlands	---	---	433,773
Norway	---	---	353,610
Portugal	267,600	213,370	344,746
Spain	5,594	4,507	112
Sweden	---	---	134,496
Switzerland	---	---	98,787
U.S.S.R.	11,929	300	---
United Kingdom	49	49	1,245
	293,531	218,226	3,916,038
Asia	---	35	26
Africa:			
Algeria	---	279,480	561,830
British West Africa	---	---	47,220
Canary Islands	7,131	20,748	12,555
Cape Verde Islands	3,384	13,962	7,620
Egypt	77,740	1	---
French West Africa	---	---	67,229
Madeira Islands	9,433	9,073	14,123
Morocco:			
French	---	---	76,348
Spanish	10,662	25,693	15,725
Tunisia	---	2,753	70,245
Other Africa	---	6	9
	108,350	351,716	872,904
Oceania	---	---	10,555
	25,836,208	26,032,348	27,946,604

1/ Amounts stated do not include fuel or bunker coal loaded on vessels engaged in foreign trade, which aggregated 1,646,561 tons in 1943, 1,559,335 tons in 1944, and 1,784,956 tons in 1945.

TABLE 66. - BITUMINOUS COAL EXPORTED FROM THE UNITED STATES, 1943-45, BY CUSTOM DISTRICTS, IN NET TONS

Customs district	1943	1944	1945
North Atlantic:			
Maine and New Hampshire	5,620	11,009	12,087
Massachusetts	4	2	---
New York	23,694	26,164	36,027
Philadelphia	279,424	307,671	1,160,647
South Atlantic:			
Maryland	101,711	168,541	2,264,127
North Carolina	1,682	---	---
South Carolina	---	---	294,753
Virginia	900,768	1,021,447	1,643,106
Gulf Coast:			
Florida	202,358	286,731	982,251
Galveston	---	---	89,128
Mobile	84,362	57,716	347,207
New Orleans	26,964	25,910	19,650
Mexican border:			
Arizona	792	428	338
El Paso	1,116	1,612	277
Laredo	6	1	21
Pacific Coast:			
Los Angeles	37	394	---
San Diego	106	82	164
San Francisco	---	300	14
Washington	18,642	640	1,020
Northern border:			
Buffalo	1,513,678	1,696,135	1,413,882
Chicago	1,058,754	1,582,563	583,981
Dakota	55,100	7,478	15,555
Duluth and Superior	270,131	365,798	273,868
Michigan	2,539,950	1,821,036	2,297,837
Montana and Idaho	---	---	9
Ohio	11,764,246	12,094,748	10,825,722
Rochester	4,146,174	3,318,098	3,155,747
St. Lawrence	2,834,424	3,227,283	2,523,021
Vermont	692	5,049	1,263
Wisconsin	581	125	468
Miscellaneous: Alaska	5,192	5,387	78
Pittsburgh	---	---	4,356
	25,836,208	26,032,348	27,946,604

TABLE 67. - SHIPMENTS OF BITUMINOUS COAL TO NONCONTIGUOUS TERRITORIES, 1943-45

	1943		1944		1945	
	Net tons	Value	Net tons	Value	Net tons	Value
Alaska:						
Anthracite Bituminous	11,269	$161,730	39,964	$491,412	36,599	$464,053
Hawaii	571	15,263	429	13,965	567	17,586
Puerto Rico	13,860	78,727	11,428	73,733	8,220	50,204
Virgin Islands	---	---	---	---	32,168	218,066

TABLE 68. - WORLD PRODUCTION OF COAL AND LIGNITE, 1938-45, BY COUNTRIES, IN THOUSANDS OF METRIC TONS 1/

(Compiled by B. B. Waldbauer)

Country 1/	1938	1939	1940	1941	1942	1943	1944	1945
North America:								
Canada:								
Coal	9,815	10,985	12,638	12,872	13,018	11,591	14,201	13,539
Lignite	3,153	3,094	3,298	3,662	4,096	4,610	1,245	1,391
Greenland	7	(2)	6	7	5	7	(3)	(3)
Mexico	893	628	816	856	914	1,025	904	(3)
United States:								
Anthracite (Pennsylvania)	41,820	46,708	46,706	51,136	54,728	55,015	57,789	49,835
Bituminous	313,473	355,445	415,336	463,908	525,948	532,903	559,750	521,582
Lignite	2,720	2,760	2,666	2,518	2,659	2,494	2,317	2,421
South America:								
Brazil	883	1,047	1,336	1,408	1,757	2,034	1,856	(3)
Chile	2,044	1,850	1,934	2,062	2,151	2,277	4/ 2,288	(3)
Colombia	331	349	521	403	415	476	499	(3)
Peru	75	108	153	117	150	187	173	4/ 188
Venezuela	6	3	5	6	9	11	7	(3)
Europe:								
Albania: Lignite	4	(2)	(3)	(3)	(3)	(3)	(3)	(3)
Belgium	29,585	29,843	25,599	26,608	24,929	23,743	13,505	15,718
Bulgaria:								
Coal	142	164	188	2,256	2,781	4/ 2,000	(3)	(3)
Lignite	1,855	2,134	2,700					
Czechoslovakia:								
Coal	15,800	(2)	(3)	(3)	(3)	(3)	(3)	5/ 6,019
Lignite	14,717	6/ 779	6/ 805	6/ 816	6/ 813	(3)	(3)	5/ 8,238
Denmark: Lignite	(3)	(3)	(3)	4/ 1,000	4/ 1,800	4/ 2,400	(3)	(3)
Eire	120	120	118	155	167	186	206	(3)
Faroe Islands: Lignite	8	8	(3)	(3)	(3)	(3)	(3)	(3)
France:								
Coal	46,504	49,147	39,323	41,849	41,869	40,557	26,602	35,071
Lignite	1,058	1,102	1,661	2,008	1,958	1,870	(3)	
Germany:								
Coal	186,177	7/ 199,258	251,430	8/ 254,121	262,818	(3)	(3)	(3)
Lignite	193,789	7/ 229,645	245,494	8/ 256,732	268,046	(3)	(3)	(3)
Austria:								
Coal	227	217	228	226	225	(3)	(3)	(3)
Lignite	3,342	3,533	3,614	3,537	3,523	(3)	(3)	(3)
Greece: Lignite	108	139	(3)	4/ 180	4/ 350	4/ 125	(3)	(3)
Hungary:								
Coal	1,042	1,107	11,513	12,632	12,964	12,506	4/ 9,000	4/ 4,000
Lignite	8,317	9,518						
Italy:								
Coal	1,480	2,024	2,282	2,393	2,522	(3)	(3)	(3)
Lignite	873	1,099	2,109	2,030	2,306	(3)	(3)	709
Netherlands:								
Coal	13,488	12,861	12,149	9/ 12,855	9/ 12,520	12,497	(3)	(3)
Lignite	171	197	(3)	(3)	(3)	(3)	(3)	(3)
Poland:								
Coal	38,104	(2)	(3)	(3)	(3)	(3)	(3)	21,004
Lignite	10	(2)	(3)	(3)	(3)	(3)	(3)	(3)
Portugal:								
Coal	299	299	369	435	438	403	426	436
Lignite	15	35	64	84	108	106	127	146
Rumania:								
Coal	299	285	251	230	194	202	202	(3)
Lignite	2,097	2,300	2,385	2,167	2,422	2,669	2,069	(3)
Spain:								
Coal	5,649	6,606	8,862	8,763	9,257	9,591	10,485	10,632
Lignite	166	194	569	793	1,106	1,112	1,202	1,322
Svalbard (Spitsbergen)	627	640	(3)	(3)	(3)	(3)	(3)	(3)
Sweden	431	444	498	557	582	(3)	(3)	4/ 500
Switzerland:								
Coal	3	3	8	72	184	157	71	311
Lignite	---	---	---	8	27	75	74	
U. S. S. R.:								
Coal	98,627	134,500	148,700	146,800	4/ 90,000	4/ 131,400	4/ 118,000	4/ 145,000
Lignite		(2)	15,900	(3)	(3)	(3)	(3)	(3)

See footnotes at end of table.

TABLE 68. - WORLD PRODUCTION OF COAL AND LIGNITE, 1938-45, BY COUNTRIES, IN THOUSANDS OF METRIC TONS 1/ - Continued

Country 1/	1938	1939	1940	1941	1942	1943	1944	1945
Europe - Continued.								
United Kingdom:								
Great Britain	230,659	235,051	227,898	209,656	206,901	197,615	188,446	174,683
Northern Ireland:								
Coal	(10)	(10)	(10)	(10)	3	(10)	(10)	(3)
Lignite	---	---	(10)	(10)	1	1	2	(3)
Yugoslavia:								
Coal	450	444	11/ 3,170	7,310	11/ 12/1,160	(3)	(3)	(3)
Lignite	5,287	5,622						
Asia:								
British Borneo	(10)	(10)	(3)	(3)	(3)	(3)	(3)	(3)
China (Free)	4,260	4,568	5,716	6,000	5,652	5,995	5,458	(3)
Manchuria	15,000	19,000	21,630	24,500	25,500	(3)	(3)	(3)
Federated Malay States	486	448	794	(3)	(3)	(3)	(3)	(3)
India	28,798	28,214	29,860	29,937	29,906	25,921	(3)	(3)
Indochina:								
Coal	2,340	2,588	2,470	12/ 1,117	12/ 732	1,293	(3)	(3)
Lignite	4	27	30	(3)	(3)	(3)	(3)	(3)
Japan:								
Formosa (Taiwan)	(2)	(2)	(3)	(3)	(3)	(3)	(3)	(3)
Japan proper:								
Coal	(2)	(2)	(3)	(3)	(3)	(3)	(3)	(3)
Lignite	(2)	(2)	(3)	(3)	(3)	(3)	(3)	(3)
Karafuto	(2)	(2)	(3)	(3)	(3)	(3)	(3)	(3)
Korea (Chosen)	3,200	4,481	(3)	(3)	(3)	(3)	(3)	(3)
Netherlands Indies	1,457	1,781	2,009	13/ 778	(3)	(3)	(3)	(3)
Philippine Islands	41	47	(3)	(3)	(3)	(3)	(3)	(3)
Syria and Lebanon:								
Lignite	(10)	1	2	8	7	1	2	2
Turkey:								
Coal	2,589	2,696	3,019	3,020	2,510	3,166	3,560	3,716
Lignite	129	151	219	264	409	589	763	648
U. S. S. R.:								
Coal	34,261	(2)	(3)	(3)	(3)	(3)	(3)	(3)
Lignite								
Africa:								
Algeria:								
Coal	13	(2)	50	80	148	117	120	(3)
Lignite	---	---	---	3	7	1	1	(3)
Belgian Congo: Coal	42	27	23	30	43	69	49	45
Madagascar	(3)	(3)	(3)	1	2	6	2	(3)
Morocco, French	123	116	143	140	118	102	134	12/ 89
Nigeria	368	311	313	(3)	(3)	(3)	(3)	(3)
Portuguese East Africa	10	8	20	17	7	13	16	(3)
Southern Rhodesia	1,044	1,118	14/ 1,257	14/ 1,399	14/ 1,487	14/ 1,713	1,808	1,669
Tunisia: Lignite	---	2	28	102	142	41	(3)	(3)
Union of South Africa	16,284	16,890	17,176	18,337	20,408	20,561	22,987	15/ 17,495
Oceania:								
Australia:								
New South Wales	9,725	11,376	9,703	11,955	12,433	11,714	11,280	10,339
Queensland	1,131	1,339	1,306	1,477	1,663	1,727	1,686	(3)
Tasmania	85	99	84	111	137	148	146	(3)
Victoria:								
Coal	312	371	272	332	318	292	262	(3)
Lignite	3,734	3,710	4,347	4,639	5,013	5,173	5,097	(3)
Western Australia	614	566	548	566	591	540	567	(3)
New Zealand:								
Coal	994	1,061	1,163	1,199	1,194	1,157	1,085	2,870
Lignite	1,264	1,319	1,393	1,483	1,529	1,676	1,766	
Total, all grades	1,460,000	1,597,000	(3)	(3)	(3)	(3)	(3)	(3)
Lignite (total of items shown above)	263,000	302,000	(3)	(3)	(3)	(3)	(3)	(3)
Bituminous and anthracite (by subtraction)	1,197,000	1,295,000	(3)	(3)	(3)	(3)	(3)	(3)

1/ Coal is also mined in Argentina, Iran, and Italian East Africa, but production figures of those countries are not available.
2/ Estimate included in total.
3/ Data not yet available.
4/ Estimate.
5/ May to December, inclusive.
6/ Estimated production of Slovakia only.
7/ Beginning in 1939, includes Sudetenland, Bohemia, and Moravia.
8/ Beginning in 1941, also includes German-occupied Poland.
9/ Fiscal year ended March 31, of year following that stated.
10/ Production of less than 1,000 tons.
11/ Estimated production of Croatia only.
12/ January to June, inclusive.
13/ Production of Government mines only.
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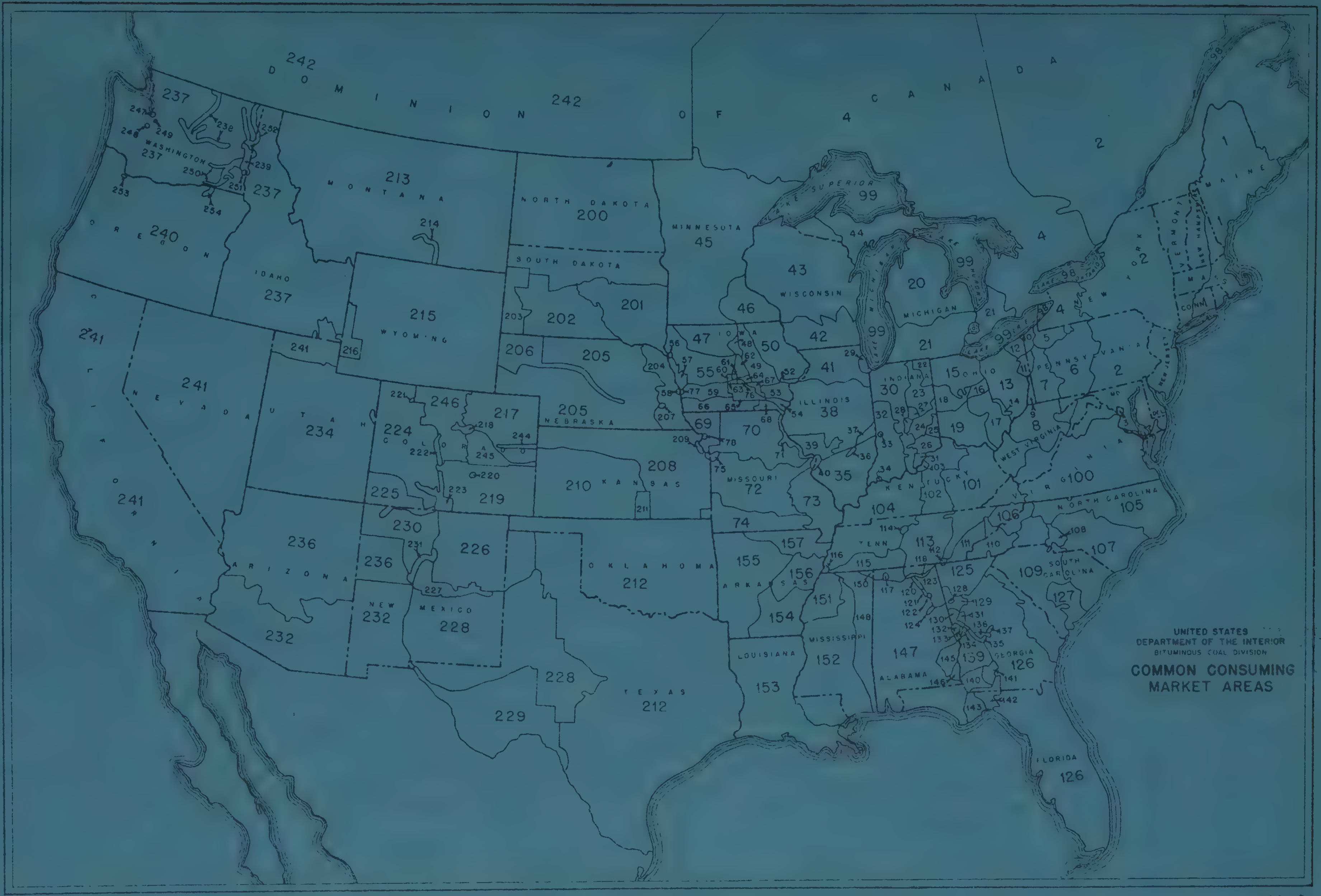
- WASHED COAL. See Cleaning, Mechanical.
- WATERWAYS, SHIPMENTS BY ... 40
- WORLD PRODUCTION ... 94, 95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UNITED STATES
DEPARTMENT OF THE INTERIOR
BITUMINOUS COAL DIVISION

COMMON CONSUMING MARKET AREAS

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

J. A. KRUG, Secretary R. R. SAYERS, Director

For release November 25, 1946.

Mineral Market Report
MMS No. 1469

PHOSPHATE ROCK IN FIRST HALF OF 1946

Total mine production of phosphate rock in the United States in the first half of 1946, according to reports of producers to the Bureau of Mines, United States Department of the Interior, was 3,283,179 long tons. Phosphate rock sold or used in the first half of 1946, 3,271,100 long tons, was more than six hundred thousand tons greater than in the corresponding period of 1945; the value, $13,878,651, was over three million dollars greater. The average value of the phosphate rock sold or used increased slightly, from $4.02 in the first half of 1945 to $4.24 in the similar period of 1946, increases being reported in all classes of rock except Idaho rock and soft rock from Florida. Total stocks in producers' hands on June 30, 1946, were markedly less than at the end of the first six months of 1945.

In the first half of 1946, phosphate rock was mined in Florida, Tennessee, Idaho, and Montana, and apatite in Virginia. Florida was the leading shipper as usual, its marketed production increasing to more than three times that of its nearest competitor, Tennessee. Shipments of all classes of Florida rock increased. The average value of the soft rock shipped declined; that of the other classes increased. The total value of the shipments of each of the classes in the first six months of 1946 was greater than in the similar period of 1945. The quantity of Tennessee rock sold or used in the first half of 1946 was greater than in the corresponding period of 1945, and the value was nearly half a million dollars greater. Idaho showed a marked increase in the quantity of phosphate rock sold or used in the first six months of 1946 over the January-to-June period of 1945. The total value of the shipments increased but the average value declined slightly. Montana shipments in the first six months of 1946 were much greater than those of the corresponding period of 1945; the total value was more than double, with the average value increasing from $3.77 in the first half of 1945 to $6.40 in the January-to-June period of 1946.

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Prepared by Bertrand L. Johnson and E. M. Tucker, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch.

Salient statistics of the phosphate-rock industry in the United States, January-June 1945 and 1946

	1945				1946			
	Long tons		Value at mines		Long tons		Value at mines	
	Phosphate rock	P_2O_5 content	Total	Average	Phosphate rock	P_2O_5 content	Total	Average
Production (mined).........	2,773,894	889,268	(1)	(1)	3,283,179	1,066,615	(1)	(1)
Sold or used by producers:								
Florida:								
Land pebble.............	1,789,796	600,611	$6,652,343	$3.72	2,246,595	754,783	$8,492,876	$3.78
Soft rock...............	36,274	7,702	151,494	4.18	49,025	10,229	192,034	3.92
Hard rock...............	3,500	1,256	23,862	6.82	55,432	20,182	414,566	7.48
Total, Florida.........	1,829,570	609,569	6,827,699	3.73	2,351,052	785,194	9,099,476	3.87
Tennessee 2/ 3/..........	682,670	197,125	3,183,588	4.66	726,149	210,552	3,645,846	5.02
Idaho....................	62,220	19,593	348,060	5.59	109,658	34,424	594,012	5.42
Montana..................	55,209	17,549	208,408	3.77	84,241	27,250	539,317	6.40
Virginia.................	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Total, United States	2,629,669	843,836	10,567,755	4.02	3,271,100	1,057,420	13,878,651	4.24
Stocks in producers' hands, June 30:								
Florida..................	843,000	278,000	(1)	(1)	503,000	169,000	(1)	(1)
Tennessee 2/ 3/ 4/.......	585,000	146,000	(1)	(1)	331,000	91,000	(1)	(1)
Other....................	8,000	2,000	(1)	(1)	19,000	6,000	(1)	(1)
Total stocks 4/	1,436,000	426,000	(1)	(1)	853,000	266,000	(1)	(1)

1/ Figures not available.
2/ Virginia included with Tennessee.
3/ Includes brown-rock matrix of sinter grade and sintered brown rock.
4/ Does not include plant stocks of washer-grade matrix

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MINERAL INDUSTRY SURVEYS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

J. A. KRUG, Secretary — R. R. SAYERS, Director

For Release December 17, 1946

MINERAL MARKET REPORT
MMS NO. 1471

VALUE OF MINERAL PRODUCTS OF THE UNITED STATES, 1944- BY STATES 1/

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State	1944			1945		
	Total value	Rank	Percent of total for United States	Total value	Rank	Percent of total for United States
Ala------	$109,149,000	16	1.56	$111,158,000	15	1.61
Alaska--	6,903,000	39	.10	10,210,000	37	.15
Ariz----	115,592,000	15	1.65	98,553,000	16	1.43
Ark-----	68,681,000	24	.98	62,772,000	24	.91
Calif---	607,302,000	3	8.69	627,306,000	3	9.08
Colo----	80,202,000	21	1.15	76,862,000	21	1.11
Conn----	4,496,000	43	.06	3,218,000	45	.05
Del-----	182,000	49	(2)	131,000	50	(2)
D. C----	111,000	50	(2)	229,000	49	(2)
Fla-----	21,852,000	33	.31	24,995,000	30	.36
Ga------	18,972,000	34	.27	19,939,000	34	.29
Idaho---	51,321,000	27	.73	44,348,000	26	.64
Ill-----	330,971,000	5	4.74	332,489,000	5	4.81
Ind-----	90,465,000	17	1.30	90,061,000	18	1.30
Iowa----	22,462,000	31	.32	24,820,000	31	.36
Kans----	217,876,000	9	3.12	210,187,000	9	3.04
Ky------	276,701,000	7	3.96	268,858,000	8	3.89
La------	288,374,000	6	4.13	298,842,000	6	4.32
Maine---	2,146,000	46	.03	2,483,000	46	.04
Md------	15,264,000	36	.22	15,030,000	35	.22
Mass----	5,260,000	41	.08	5,447,000	41	.08
Mich----	152,135,000	12	2.18	140,677,000	12	2.04
Minn----	170,465,000	11	2.44	167,140,000	11	2.42
Miss----	18,940,000	35	.27	21,816,000	33	.31
Mo------	72,960,000	23	1.04	74,171,000	23	1.07
Mont----	89,052,000	18	1.27	75,816,000	22	1.10
Nebr----	5,060,000	42	.07	4,953,000	43	.07
Nev-----	51,800,000	26	.74	31,517,000	28	.46
N. H----	1,166,000	47	.02	801,000	47	.01
N. J----	33,794,000	29	.48	31,253,000	29	.45
N. Mex--	124,827,000	14	1.79	116,508,000	14	1.69
N. Y----	87,632,000	19	1.25	90,286,000	17	1.31
N. C----	22,199,000	32	.32	14,457,000	36	.21
N. Dak--	4,393,000	44	.06	4,551,000	44	.07
Ohio----	192,052,000	10	2.75	196,633,000	10	2.85
Okla----	260,832,000	8	3.73	282,859,000	7	4.09
Oreg----	9,657,000	37	.14	9,398,000	38	.14
Pa------	985,464,000	2	14.10	930,113,000	2	13.46
R. I----	612,000	48	.01	508,000	48	.01
S. C----	4,192,000	45	.06	5,043,000	42	.07
S. Dak--	5,472,000	40	.08	7,165,000	40	.10
Tenn----	63,998,000	25	.92	60,199,000	25	.87
Tex-----	1,321,541,000	1	18.91	1,360,694,000	1	19.70
Utah----	149,558,000	13	2.14	129,386,000	13	1.87
Vt------	7,672,000	38	.11	8,233,000	39	.12
Va------	87,001,000	20	1.25	84,081,000	19	1.22
Wash----	36,483,000	28	.52	31,588,000	27	.46
W. Va---	598,425,000	4	8.56	597,377,000	4	8.65
Wis-----	22,794,000	30	.33	22,213,000	32	.32
Wyo-----	74,175,000	22	1.06	81,105,000	20	1.17

1/ In this table iron ore, not pig iron, is taken as the basis of iron valuation, and for other metals mine production (recoverable content of metals) is the basis.

2/ Less than 0.01 percent.

Prepared by M. E. Meyer under the supervision of E. W. Pehrson, Chief, Economics and Statistics Branch.

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MINERAL INDUSTRY SURVEYS
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
J. A. KRUG, Secretary R. R. SAYERS, Director

For release DECEMBER 31, 1946.

MINERAL MARKET REPORT
MMS No. 1472

BARITE IN THE THIRD QUARTER OF 1946

Barite production in the third quarter of 1946 set a new record, according to the Bureau of Mines, United States Department of the Interior. The output, 201,197 short tons, was 2 percent greater than production during the comparable 1945 quarter and 11 percent greater than output of the preceding 1946 quarter. The third quarter output is nearly always greatest seasonwise, as both producers and consumers try to build up stocks to tide them through curtailed winter operations. Barite washers in the East cannot operate during a hard freeze, and some mines in the West are snowbound in winter.

As usual, rotary oil-well drilling accounted for the bulk of shipments. Ground barite is used in drilling oil wells in high pressure formations to retain oil and gas at their levels. The heavily-weighted column of drilling mud thus prevents blow-outs. About 5 tons of barite is required for each 1,000 feet of high pressure drilling. In view of the estimated 7 percent increase in high-pressure well-drilling in 1946 over 1945 (adapted from Oil and Gas Journal), grinders for the well drilling business expect 1946 to be the biggest year in their history.

Arkansas remained the State of greatest production with its two flotation plants, one operated by National Lead Co. and the other by Magnet Cove Barium Corp. Missouri was a close second with its many washers in Washington County, near St. Louis. A considerable portion of the Missouri increase can be accounted for by the émigrés from the declining Cartersville, Ga., area. It is interesting to note that Missouri increased about 36,000 tons during the first nine months of 1946 over the same period of 1945, compared with a decrease of about 31,000 tons for Georgia. The influx of Georgia operators to Missouri seems definitely to have favored the national supply of barite.

The Office of Price Administration (now merged in the Office of Temporary Controls) removed barite from price control on July 26, but the industry reports that to date there have been little or no price increases.

In the chart, following page 2, annual trends in the barite industry are shown from 1938 to 1942, the yearly data being divided by four to provide averages commensurate with the quarterly data which follow for 1943 to date. Exports, if any, are included in the curve labeled "Shipments for filler and miscellaneous uses".

Imports of crude barite into the United States for consumption, in the first, second, and third quarter of 1946, by countries

	First quarter		Second quarter	
	Short tons	Value	Short tons	Value
Canada	—	—	13,760	$78,181
Mexico	114	$646	—	—
	114	646	13,760	78,181

	Third quarter		Total 9 months	
	Short tons	Value	Short tons	Value
Canada	19,541	$122,007	33,301	$200,188
Mexico	—	—	114	646
	19,541	122,007	33,415	200,834

There were no receipts of ground barite during the first three quarters of 1946.

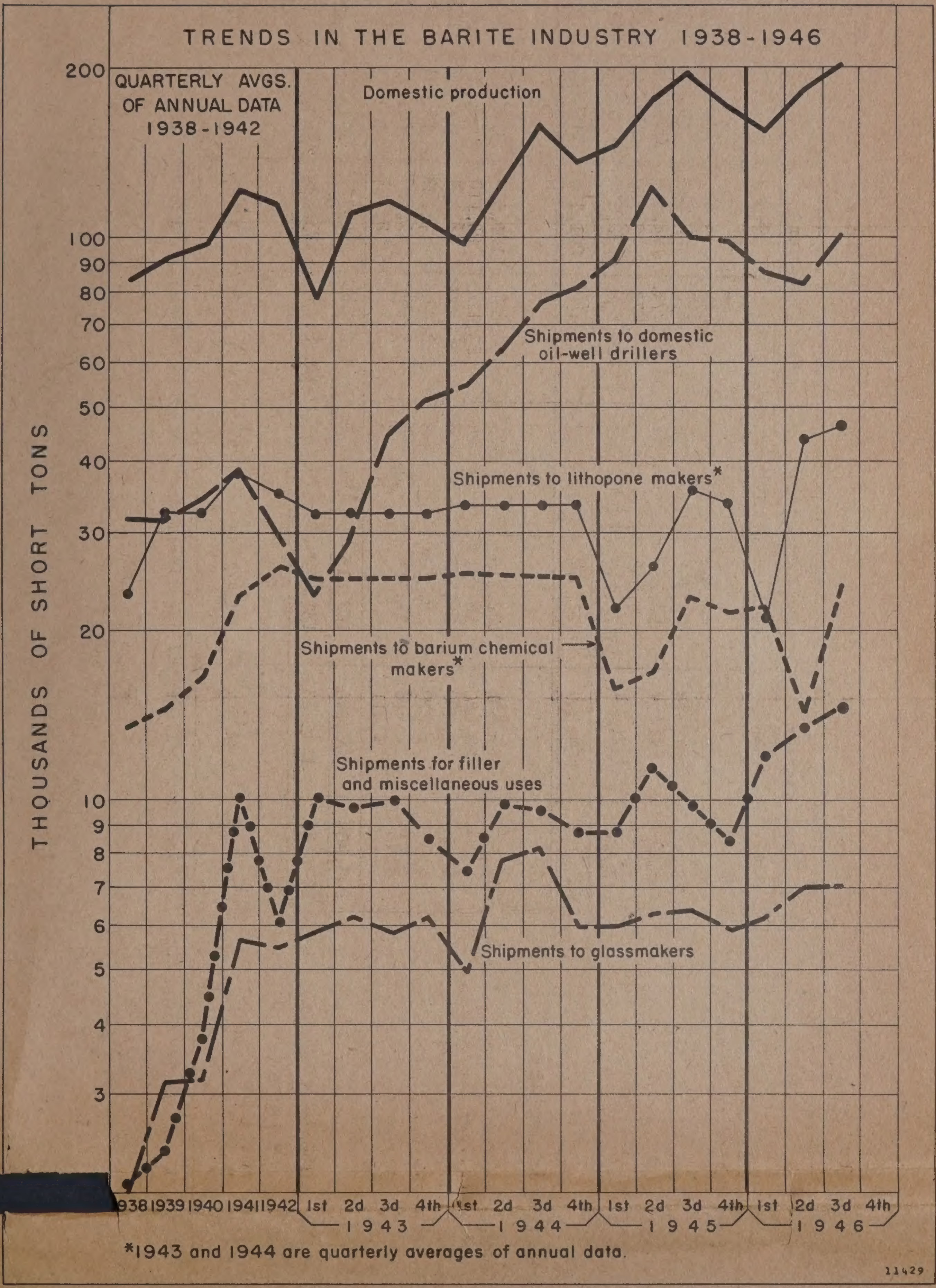
Prepared by Charles L. Harness and F. M. Barsigian, under the supervision of Oliver Bowles, Chief, Nonmetal Economics Division, Economics and Statistics Branch

Production, distribution, and stocks of barite during the first, second, and third quarters of 1945 and 1946, in short tons

	First quarter		Second quarter		Third quarter		Total 9 months	
	1945	1946	1945	1946	1945	1946	1945	1946
Production of primary barite by States:								
Arkansas	55,613	67,662	66,643	67,166	68,288	75,701	190,544	210,529
Georgia	28,139	11,670	27,881	20,064	31,278	24,642	87,298	56,376
Missouri	46,234	62,294	57,197	70,561	62,278	68,954	165,709	201,809
Tennessee	7,713	2/12,964	8,546	4/23,161	9,473	9,642	25,732	24,623
Other States	1/7,578		3/17,110		3/25,836	4/22,258	3/50,524	4/43,404
	145,277	154,590	177,377	180,952	197,153	201,197	519,807	536,739
Estimated distribution of domestic barite by Uses:								
Well drilling	91,781	86,551	122,115	82,776	100,684	100,597	314,580	269,924
Chemicals	15,724	22,030	16,801	14,404	23,112	24,117	55,637	60,551
Lithopone	22,075	21,162	26,027	43,526	36,896	46,439	84,998	111,127
Glass	5,991	6,229	6,388	7,068	6,422	7,142	18,801	20,439
Filler	8,833	10,696	11,484	13,356	9,855	11,567	30,172	35,619
Other	--	5/ 1,411	--	56	--	5/ 2,927	--	5/ 4,394
	144,404	148,079	182,815	161,186	176,969	192,789	504,188	502,054
Production of ground and crushed barite	109,172	104,813	130,402	103,019	6/116,854	123,854	356,428	331,686
Crude barite stocks end of quarter: Held by producers, crushers, and grinders of crude barite	22,069	36,623	21,109	60,769	37,925	61,925	--	--

1/ Includes California and North Carolina. 2/ Includes California. 3/ Includes California, Nevada, and North Carolina.

4/ Includes California and Nevada. 5/ Includes exports. 6/ Revised figure.



TRENDS IN THE BARITE INDUSTRY 1938-1946

*1943 and 1944 are quarterly averages of annual data.

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